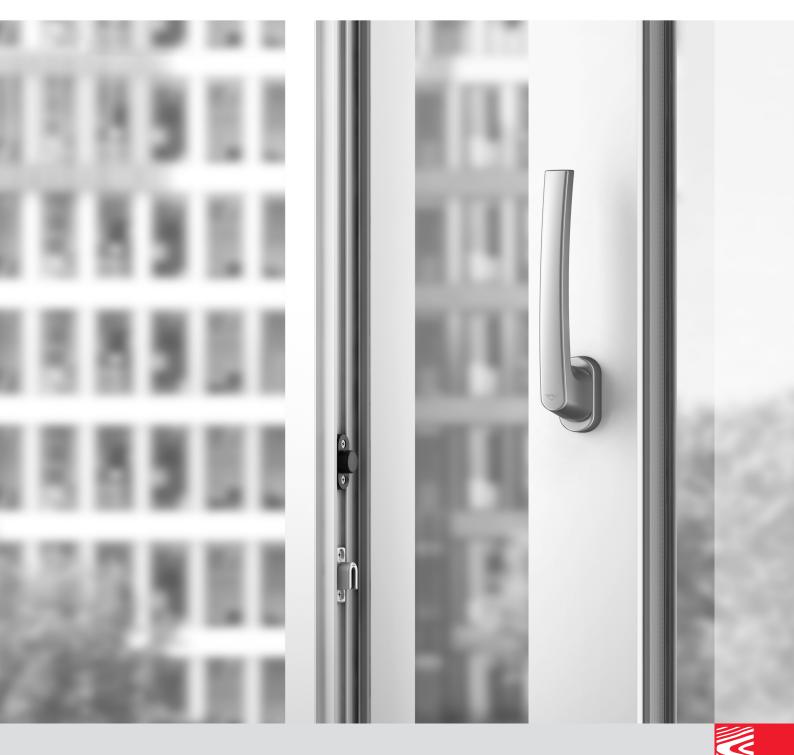# **Roto Patio** Inowa | 400
Intelligent hardware
for tightly sealed sliding systems

Installation, maintenance and operation instructions
for timber and PVC profiles up to 400 kg

Contact

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Table of contents

1   General information

1.1   Version history

Version	Date	Changes
v0	21/09/2021	
v1	23/05/2022	Figure amended → *from page 24* → *from page 28*.

1.2   Instructions

This manual contains important information, instructions, application diagrams (max. sash sizes and weights) and assembly instructions for the installation, maintenance and operation of hardware.

The information and instructions contained in this document refer to products belonging to the Roto hardware system named on the front page.

All steps must be completed in sequence.

The following documents apply in addition to these instructions:

■ Handles catalogue: CTL_1

The following guidelines also apply:

Gütegemeinschaft Schlösser und Beschläge e.V.

■ Directive TBDK: Attachment of supporting fitting components for turn-only and tilt&turn fittings
■ Directive VHBE: Hardware for windows and balcony doors – Guidelines/advice for end-users
■ Directive VHBH: Hardware for windows and balcony doors – Guidelines/advice on the product and on liability

VFF (German Window and Facade Association)

■ TLE.01: Correct handling of ready-to-install windows and external doors during transport, storage and installation
■ WP.01: Maintenance of windows, facades and external doors – Maintenance, care and inspection – Information for sales
■ WP.02: Maintenance of windows, facades and external doors – Maintenance, care and inspection – Measures and documents
■ WP.03: Maintenance of windows, facades and external doors – Maintenance, care and inspection – Maintenance agreement

Additional guidelines

■ Instructions and information issued by profile manufacturers, e.g. manufacturers of windows and balcony doors
■ Instructions and information issued by screw manufacturers
■ The applicable regulations, directives and national laws

Storing the instructions

These instructions are an important part of the product. The instructions must be stored so that they are always to hand.

Explanation of the markings

The manual uses the following markings for emphasis (e.g. in figures or instructions):

Marking	Meaning
	Sash
	Frame
	Drill holes, routing or screw positions
	Unaffected components / indirectly affected components
	Components, arrows or movements that have just been described
1	Item number
[1]	Legend
[A]	Steps

INFO

Any dimensions without a unit in the instructions are given in millimetres (mm). Other units of measurement are clearly indicated by the presence of the differing unit.
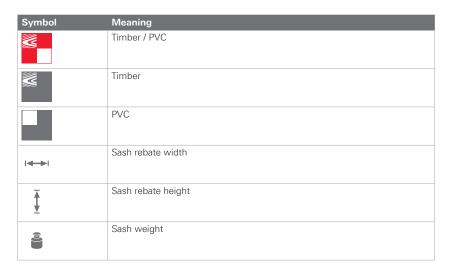
INFO

Figures are provided in the left-hand version. The process for the right-hand version is mirror-inverted.

1.3 Symbols

Symbol	Meaning
■	First-level list
□	Second-level list
→	(Cross-)reference
▷	Result
▶	Unnumbered step
1.	Numbered step
a.	Numbered second-level step
⇨	Requirement

1.4 Pictographs

Symbol	Meaning
	Timber / PVC
	Timber
	PVC
|←→|	Sash rebate width
	Sash rebate height
	Sash weight
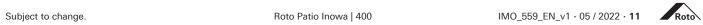
Symbol	Meaning
	Moving the handle position vertically upwards to the open sliding position
	Moving the handle position vertically downwards to the closed position
	Closed position
	Sash handle height (centre-left)
	Left of sash
	Top of sash
	Top right and bottom right of sash
	Top and bottom of sash
	Top left and right and bottom left and right of sash
	Right of sash
	Bottom of sash
	Sash diagram C, position of operating sequence control – timber
	Sash diagram C, position of operating sequence control – PVC
	Sash diagram C, second opening sash, right
	Left of frame
	Bottom left of frame
	Top left of frame
	Top right of frame
	Bottom of frame

1.5 Product features

Symbol	Meaning
	Order quantity
	Description

Symbol	Meaning
	Width
[*]	Call-out
	Backset
	Installation DIN left / right
	Colour
	Colour code, Roto
	Sash width
	Sash height
	Sash weight
	Fixed handle height
	Height
i	Information
	Coupling dimension
	Couplable
	Length
	Material
Nº	Material number
	Installation type
	Position

Symbol	Meaning
	Number of locking cams
	Type of locking cams
#	Piece(s)

1.6 Abbreviations

Abbreviation	Meaning
approx.	approximately
CTL	Catalogue
DIN L	DIN left
DIN R	DIN right
BS	Backset
E	E cam
IMO	Installation instructions
SRW	Sash rebate width
SRH	Sash rebate height
S.kg	Sash weight
K	K cam
KU	Couplable
kg	Kilograms
KSR	Vertical tilting
L	Length
Max.	Maximum
MUL	Mullion
Min.	At least
mm	Millimetres
CL	Centre lock
Nm	Newton metres
Not sh.	Not shown
FIW	Frame internal width
Pc. / pcs	Piece(s)
WAF	Key size
V	V cam
e.g.	For example

1.7 Target groups

The information in this document is directed at the following target groups:

Hardware dealers

The "hardware dealers" target group includes all companies and individuals that purchase hardware from hardware manufacturers for resale, without modifying or further processing the hardware.

Window and balcony door manufacturers

The "window and balcony door manufacturers" target group includes all companies and individuals that purchase hardware from hardware manufacturers or hardware dealers and further process the hardware by integrating it in windows and balcony doors.

Building element dealers or installation companies

The "building element dealers or installation companies" target group includes all companies and individuals that purchase windows and balcony doors from window and balcony door manufacturers for resale and for installation in construction projects, without modifying the windows or balcony doors.

Builders

The "builders" target group includes all companies and individuals who place orders for the manufacture of windows and balcony doors for installation in their construction projects.

End users

The "end users" target group includes all individuals who use the installed windows and balcony doors.

1.8 Target groups' obligation to give instructions

> **i INFO**
>
> Each target group must fulfil their obligation to give instructions in full.
>
> Unless specified otherwise in the text below, documents and information can be passed on as a printed document, on a data storage device or via the Internet.

Responsibility of hardware dealers

Hardware dealers must pass the following documents on to the window and balcony door manufacturer:

- Catalogue
- Installation, maintenance and operation instructions
- Directive on attachment of supporting fitting components for turn-only and tilt&turn fittings (TBDK)
- Guidelines/advice on the product and on liability (VHBH)
- Guidelines/advice for end-users (VHBE)

Responsibility of the window and balcony door manufacturer

The window and balcony door manufacturer must pass the following documents on to building element dealers or the builder, even if a subcontractor (installation company) is involved:

- Installation, maintenance and operation instructions
- Directive on attachment of supporting fitting components for turn-only and tilt&turn fittings (TBDK)
- Guidelines/advice on the product and on liability (VHBH)
- Guidelines/advice for end-users (VHBE)

They must ensure that the end users are provided with the documents and information intended for them in printed format.

Responsibility of building element dealers and the installation company

Building element dealers must pass the following documents on to the builder, even if a subcontractor (installation company) is involved:

- Installation, maintenance and operation instructions (with a focus on hardware)
- Guidelines/advice on the product and on liability (VHBH)
- Guidelines/advice for end-users (VHBE)

Responsibility of the builder

The builder must pass the following documents on to the end user:

- Installation, maintenance and operation instructions (with a focus on hardware)
- Guidelines/advice for end-users (VHBE)

1.9   Copyright protection

The contents of this document are copyright-protected. This content can be used when working with the hardware. Any other use is not permitted without written permission of the manufacturer.

1.10   Limitation of liability

All information and instructions contained in this document have been compiled in consideration of the applicable standards and regulations, the latest developments in technology and many years of knowledge and experience.

The hardware manufacturer assumes no liability for damage caused by:

- Failure to comply with this document and all product-specific documents and other applicable directives (see the chapters entitled "Security" and "Stipulated use").
- Improper use / misuse (see the chapters entitled "Security" and "Stipulated use").
- Insufficient invitation to tender, non-compliance with installation specifications and non-compliance with the application diagrams (where available).
- Increased contamination.

Claims made by third parties against the hardware manufacturer on account of damage resulting from misuse or failure to comply with the obligation to give instructions on the part of hardware dealers, window, door and balcony door manufacturers and building element dealers or the builder are passed on accordingly.

The obligations agreed in the delivery contract, the general terms and conditions, the hardware manufacturer's terms and conditions of delivery and the legal provisions applicable when the contract was concluded shall apply.

The warranty only covers original Roto components.

We reserve the right to make technical changes as part of improvement to performance characteristics and further development.

1.11 Preserving the surface finish

⚠️ **ATTENTION**
Surface treatments may cause property damage.
Surface treatments (e.g. painting and varnishing) on elements can damage components or prevent them from working properly.
▶ For masking, only use adhesive tape that does not damage the paint coats. Consult the manufacturer if in doubt.
▶ Protect components against direct contact with the surface treatment.
▶ Protect components against contamination.

⚠️ **ATTENTION**
Using incorrect cleaning agents and sealing compounds may cause property damage.
Cleaning agents and sealing compounds may damage the surfaces of components and gaskets.
▶ Do not use aggressive or flammable liquids, acidic cleaners or abrasive cleaners.
▶ Only use mild, pH-neutral cleaning agents that have been diluted.
▶ Apply a thin protective film to the components, for example using a cloth soaked in oil.
▶ Avoid aggressive vapours (e.g. produced by formic acid, acetic acid, ammonia, amine compounds, ammonia compounds, aldehyde, carbolic acid, chlorine, tannic acid) around the element.
▶ Do not use any acetic acid-crosslinking or acid-crosslinking sealing compounds or those with the aforementioned constituents as both direct contact with the sealing compound and its fumes can corrode the surface of the components.

⚠️ **ATTENTION**
Contamination may cause property damage.
Contamination prevents components working properly.
▶ Remove deposits and contamination caused by construction materials (e.g. plaster, gypsum).
▶ Keep components free of deposits and contaminants.

⚠️ **ATTENTION**
(Permanently) damp room air may cause property damage.
Damp room air can lead to mould growth and corrosion caused by condensation.
▶ Provide adequate ventilation for components, particularly during the construction phase.
▶ Intensively air out the room several times per day by opening all elements for approximately 15 minutes. If intensive airing is not an option, place the elements in the tilt position and provide airtight masking inside the room, e.g. if there is fresh screed that cannot be walked on or must not be exposed to draughts. Discharge any humidity present in the room air to the outside using condensation dryers.
▶ Establish a ventilation plan for more complex construction projects if necessary.
▶ Provide adequate ventilation during holiday periods as well.

2 Security

This manual contains instructions relating to safety. The principal safety information in this chapter includes information and instructions relevant to the safe use or maintaining the safe condition of the product. Warning instructions that relate to handling warn of residual risks and are located before steps that are relevant to safety.

▶ Follow all of the instructions in order to prevent personal injury and property and environmental damage.

2.1 Presentation and structure of warning instructions

The warning instructions relate to individual actions and are structured as follows with a warning symbol:

DANGER
Nature and source of the danger.
Explanation and description of the danger and the implications.
▶ Measures to take to avert the danger.

2.2 Security levels of warning instructions

The warning instructions that relate to handling are identified differently according to the severity of the associated danger. The signal words and the associated warning symbols used are clarified below.

DANGER
Immediate risk of death or serious injuries.
▶ Observe these warning instructions to avoid personal injuries.

WARNING
Potential risk of death or serious injuries.
▶ Observe these warning instructions to avoid personal injuries.

CAUTION
Risk of injuries
▶ Observe these warning instructions to avoid personal injuries.

ATTENTION
Reference to property or environmental damage.
▶ Observe these warning instructions to avoid property or environmental damage.

2.3 Stipulated use

The hardware system described in these instructions is intended for installation in sliding sashes in windows and balcony doors. The hardware system is only intended for further processing on windows and balcony door sashes for vertical installation made from the materials described in these instructions. The hardware system opens sashes in windows and balcony doors and closes them tightly.

Stipulated use also includes compliance with all safety information and specifications contained in these instructions, the other applicable documents and the applicable regulations, directives and national laws.

2.3.1 Misuse

Any use and processing of the products that goes beyond or differs from the stipulated use is considered misuse and can lead to hazardous situations.

> ⚠ **WARNING**
> **Misuse may pose a risk of death!**
> Misuse and incorrect installation of hardware can lead to serious injuries.
> ▸ Only use hardware combinations that have been approved by the hardware manufacturer.
> ▸ Only use original accessories or those that have been approved by the hardware manufacturer.
> ▸ Note the product-related documentation ➔ *from page 9*.

2.3.2 Usage restriction

Opened sashes in windows and balcony doors, and windows and balcony door sashes that are unlocked or placed in ventilation positions, only have a shielding effect. They do not meet the following requirements:

- Joint sealing
- Driving rain impermeability
- Sound insulation
- Thermal insulation
- Burglary inhibition

2.4 Stipulated use for end users

On windows or balcony doors with sliding hardware, window sashes or balcony door sashes can be moved horizontally or vertically by operating a handle.

On special structures, various sashes can additionally be brought into a turn position and / or into a tilt position restricted by the scissor stay version.

When closing a sash and locking the hardware, the gasket counter force must generally be overcome.

> ⚠ **WARNING**
> **Opening and closing sashes in an uncontrolled manner may pose a risk of death!**
> Opening and closing the sash in an uncontrolled manner may lead to serious injuries.
> ▸ Ensure that the sash does not collide with the frame, opening restrictor (buffer) or other sashes when it is moved into the fully open or closed position.
> ▸ Ensure that the sash is slowly guided by hand throughout its entire movement range, until it has been brought into a fully closed or opening position.

⚠️ **ATTENTION**
Opening and closing sashes in an uncontrolled manner may result in property damage.
Opening and closing the sash in an uncontrolled manner may cause the element to malfunction.
▶ Ensure that the sash does not collide with the frame, opening restrictor (buffer) or other sashes when it is moved into the fully open or closed position.
▶ Ensure that the sash is slowly guided by hand throughout its entire movement range, until it has been brought into a fully closed or opening position.

Any use and processing of the products that goes beyond or differs from the stipulated use is considered misuse and can lead to hazardous situations.

No claims can be made on account of damage resulting from failure to comply with the stipulated use.

2.4.1 Misuse

Any use and processing of the products that goes beyond or differs from the stipulated use is considered misuse and can lead to hazardous situations.

⚠️ **WARNING**
Misuse may pose a risk of death!
Misuse and incorrect installation of hardware can lead to serious injuries.
▶ Only use hardware combinations that have been approved by the hardware manufacturer.
▶ Only use original accessories or those that have been approved by the hardware manufacturer.
▶ Note the product-related documentation ➔ *from page 9*.

2.5 Basic safety information

The following hazards may arise when handling the product:

2.5.1 Installation

Incorrect installation poses an immediate risk of death or serious injuries.

Incorrect installation or assembly of hardware can lead to hazardous situations or property damage. Depending on the height of the fall, this can result in serious to life-threatening injuries and glass breakage.

▶ Only use hardware combinations that have been approved by the hardware manufacturer.
▶ Only use original accessories or those that have been approved by the hardware manufacturer.
▶ Always have installation performed by a specialist company.

Heavy loads pose a risk of injury.

Lifting and carrying heavy loads may lead to injuries in the event of a fall or physical overexertion.

▶ Note the applicable accident prevention regulations.

▸ Transport heavy loads with two people and use suitable transportation means (such as an industrial truck).

Physical strain may cause damage to health.

Moving heavy loads for extended periods leads to physical injury in the long term.

▸ When carrying and lifting by hand, comply with a maximum weight of 25 kg for men and 10 kg for women.
▸ Carry and lift even small loads with an ergonomically correct posture.

2.5.2 Use

Falls from open windows and balcony doors present an immediate risk of death and pose the risk of serious injuries.

Opened sashes of windows and balcony doors create a danger zone. Depending on the height of the fall, this can result in serious to life-threatening injuries and glass breakage.

▸ Take care when in the vicinity of open windows and balcony doors.
▸ Keep children and anyone unable to understand the risks away from the hazardous area.

Trapping body parts in the opening between sash and frame may lead to serious injuries.

Gripping between the sash and frame when closing windows and balcony doors poses the risk of crushing injuries.

▸ When closing windows and balcony doors, never grip between the sash and frame and always exercise caution.
▸ Keep children and anyone unable to understand the risks away from the hazardous area.

Opening and closing sashes improperly poses the risk of injury and property damage.

Incorrect opening and closing of sashes can result in serious injuries and substantial property damage.

▸ When moving the sash, ensure that it will not slam against the frame or other sashes once fully opened or closed.
▸ Ensure that the sash is slowly guided by hand throughout its entire movement range, until it has been brought into a fully closed or opening position.
▸ When closing a sash and locking the hardware, the gasket counter force must be overcome.

Misuse poses a risk of injury and property damage.

Misuse can lead to hazardous situations and may destroy the hardware, frame materials or other individual components within the windows or balcony doors.

▸ Do not introduce any obstacles in the opening area between the frame and window or balcony door sashes.
▸ Do not place additional loads on windows and balcony door sashes.

▶ Refrain from intentionally or uncontrollably slamming or pushing the window or balcony door sash against the window reveal.

Improper maintenance poses the potential risk of injury and property damage.

Windows and balcony doors, including the hardware, require expert maintenance (care, cleaning, maintenance and inspection) in order to guarantee their proper condition and safe use.

▶ Keep the hardware free of deposits and contaminants.
▶ Carry out care and cleaning tasks as specified in these instructions.
▶ Always have regular maintenance, adjustment and repair work carried out by a specialist company.

2.5.3 Ambient conditions

Physical and chemical influences may result in property damage.

Hardware components can be permanently damaged to the point that they can no longer function in a saline, aggressive or corrosive environment.

▶ Do not use the hardware components in a saline, aggressive or corrosive environment.
▶ Carry out care and cleaning tasks as specified in these instructions.
▶ Corrosion protection must be inspected by an authorised specialist company as part of regular maintenance work.

Moisture may cause property damage.

Depending on the outside temperature, relative humidity of the room air and installation conditions for the windows and balcony doors, a temporary build-up of condensation may occur. This can lead to corrosion on the hardware and mould growth on the frame or wall. Ambient conditions that are too damp, particularly during the construction phase, can lead to timber elements warping.

▶ Avoid preventing the circulation of air (e.g. due to deep reveals, curtains and unfavourable positioning of heaters or the like).
▶ Intensively air out the room several times per day.

Open all windows and balcony doors for approximately 15 minutes so that the air in the room can be completely replaced.
▶ Provide adequate ventilation during holiday periods as well.
▶ Create a ventilation plan for construction projects if necessary.

2.6 Operation
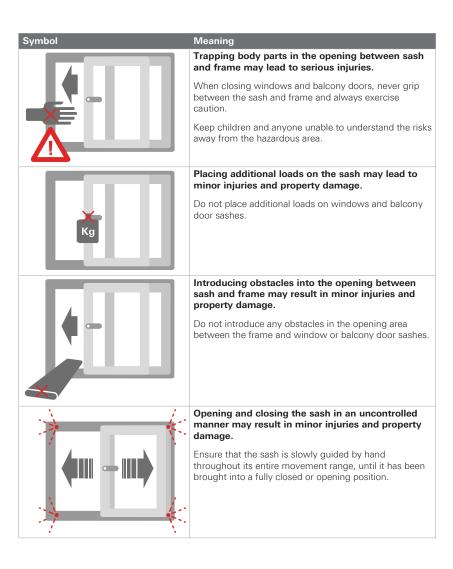
The safety symbols and markings and the associated warning instructions explained below apply to the safe operation of windows and balcony doors.

Safety symbols and markings

Symbol	Meaning
	Falls from open windows and balcony doors present an immediate risk of death and pose the risk of serious injuries. Take care when in the vicinity of open windows and balcony doors. Keep children and anyone unable to understand the risks away from the hazardous area.

Symbol	Meaning
	Trapping body parts in the opening between sash and frame may lead to serious injuries. When closing windows and balcony doors, never grip between the sash and frame and always exercise caution. Keep children and anyone unable to understand the risks away from the hazardous area.
	Placing additional loads on the sash may lead to minor injuries and property damage. Do not place additional loads on windows and balcony door sashes.
	Introducing obstacles into the opening between sash and frame may result in minor injuries and property damage. Do not introduce any obstacles in the opening area between the frame and window or balcony door sashes.
	Opening and closing the sash in an uncontrolled manner may result in minor injuries and property damage. Ensure that the sash is slowly guided by hand throughout its entire movement range, until it has been brought into a fully closed or opening position.

3 Information on the product

3.1 General hardware characteristics

- Concealed hardware
- Innovative closing movement perpendicular to the frame profile
- Circumferential gasket
- Even heavy sashes can be opened with less effort because the handle is easy to use.
- Active locking points including in the mullion.
- PVC RC 2 / RC 2 N: SKG**-certified
- Control unit with Soft function:
  - SoftClose (damped closing)
  - SoftOpen (damped opening)
  - SoftStop on the espagnolette side (damped in the locking direction)
  - SoftStop on the mullion side (damped in the opening direction)
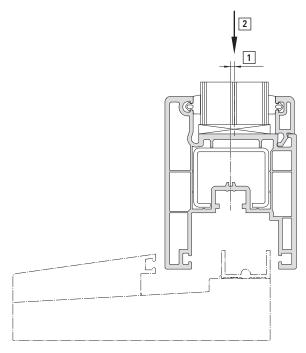
3.2 Application ranges

- The sash runs within the frame profile with a retracting distance of 8 mm.
- Narrow profile views possible
- SRW 1500 mm – 3000 mm
- SRH 2000 mm – 3600 mm
- S.kg from 150 kg up to max. 400 kg
- Opening diagrams:

  A and A' (running inward or outward)

  K and K' (running inward or outward)

  C and C' (running inward or outward)
- Resistance class basic security and RC 2 / RC 2 N
- Operating range: -20 °C to +80 °C

3.3 Application diagrams

3.3.1 C dimension

[1] C dimension
[2] Glass centre of mass
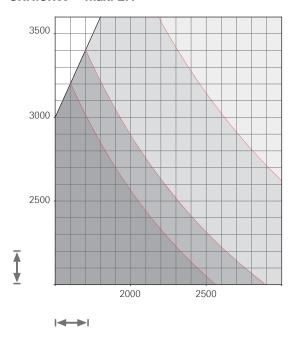
i	**INFO**
	Applicable for C dimensions < 25 mm. Different dimensions must be technically tested by Roto.

3.3.2   400 kg

SRH:SRW = max. 2:1

= Impermissible application range
≤ 35 kg/m²
≤ 50 kg/m²
≤ 70 kg/m²
≤ 80 kg/m²

The specifications in the application diagram refer to the glass weight in kg/m².

1 mm/m² glass thickness ≙ 2.5 kg

		Application range
	Sash rebate width (SRW)	1500 – 3000 mm
	Sash rebate height (SRH)	2000 – 3600 mm
	Sash weight (S.kg)	Max. 400 kg
–	Glass weight	Max. 80 kg/m²

SRH:SRW = > 2:1 up to max. 3:1

For diagrams A, A', K and K'. Diagrams C and C' available upon request.

⚠️ **DANGER**

The uncontrolled tilting of sashes with aspect ratios > 2:1 poses a risk of death!
Uncontrolled tilting may cause sashes with aspect ratios > 2:1 to jump out of the guide track. This many lead to hazardous situations and cause serious or fatal accidents.
- ▶ The roller track must have two walls → *3.6 "Dimensions of the roller track" from page 28*.
- ▶ Install the tilt protection device (only without control unit with Soft function) → *3.7 "Dimensions of the tilt protection device" from page 28*.

⬜ = Impermissible application range
⬜ ≤ 35 kg/m^2
⬜ ≤ 50 kg/m^2
⬜ ≤ 70 kg/m^2
⬜ ≤ 80 kg/m^2

The specifications in the application diagram refer to the glass weight in kg/m^2.

1 mm/m^2 glass thickness ≙ 2.5 kg

ℹ️ **INFO**

The use of control units with Soft function is not possible with aspect ratios > 2:1.
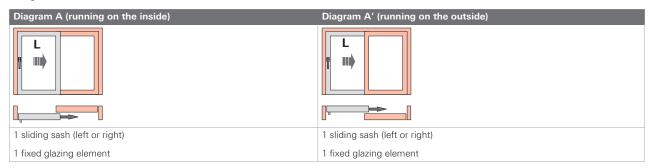
	Application range	
↔	Sash rebate width (SRW)	1500 – 3000 mm
↕	Sash rebate height (SRH)	2000 – 3600 mm
🏋	Sash weight (S.kg)	Max. 400 kg
–	Glass weight	Max. 80 kg/m^2
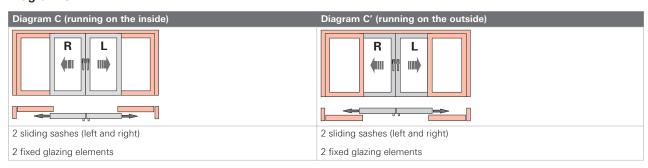
3.4 Design variants

3.4.1 Overview

Diagram A

Diagram A (running on the inside)	Diagram A' (running on the outside)
1 sliding sash (left or right)	1 sliding sash (left or right)
1 fixed glazing element	1 fixed glazing element

Diagram C

Diagram C (running on the inside)	Diagram C' (running on the outside)
2 sliding sashes (left and right)	2 sliding sashes (left and right)
2 fixed glazing elements	2 fixed glazing elements

Diagram K

Diagram K (running on the inside)	Diagram K' (running on the outside)
2 sliding sashes (left and right)	2 sliding sashes (left and right)
1 fixed glazing element	1 fixed glazing element

3.5 Hardware groove dimensions

Sash profile cross section

[1] Hardware axis

[2] Hardware groove

X = SRW (including assembly profile [3])
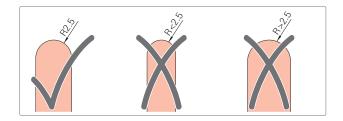
Y = SRH

3.6 Dimensions of the roller track
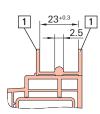
> **INFO**
> Roller track only made from stainless steel or anodised aluminium.

Roller track shape

3.7 Dimensions of the tilt protection device
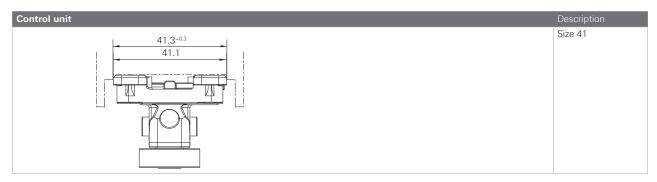
Two walls [1] next to the roller track are required for aspect ratios > 2:1.

3.8 Component dimensions

Roller unit	Description
$41.3^{+0.3}$ 41.1	Size 41

Stabilisation unit	Description
41.3^{+0.3} / 41.1	Size 41

Stabilisation unit	Description
$41.3^{+0.3}$ 41.1	Size 41

Control unit	Description
$41.3^{+0.3}$ 41.1	Size 41

Control unit with Soft function	Description
$41.3^{+0.3}$ 41.1	Size 41

Centre closer	Description
$41.3^{+0.3}$ 41.1	Size 41

Rubber buffer	Description
16.5 17.5	Size 16.5
	Size 17.5

MUL locking cam	Description
	Adjustable
	L = 25 - 53.5

Pin for anti-pushback function	Description
	Adjustable
	L = 25 - 53.5

4 Hardware overviews

The hardware overviews on the following pages are a recommendation on the part of Roto Frank Fenster- und Türtechnologie GmbH.

The basic page layout in the hardware overviews chapter firstly shows examples of the combination of individual hardware components, and the associated parts list can be seen on the following pages.

The item numbers in the squares link the hardware overview to the parts list.

The actual composition of the hardware depends on:

- the height of the element
- the width of the element
- the weight of the element
- Profile system
- Design variant

---

i **INFO**
Profile properties

Design the profile optimally for the corresponding weights. Proper load transfer must be ensured by the profile manufacturer / fabricator.

Ensure that the rollers on the roller track run smoothly. Keep the roller track clean, do not powder coat or paint it.

The currently valid Roto profile assessment drawing for the specific profile and the applicable documents described in said drawing must be observed.

Please request these details from your responsible Roto sales representative.

Recommended handles can be found in the handles catalogue.

Determine the quantity of required hardware components with Roto Con Orders.

---

i **INFO**
Roto Con Orders

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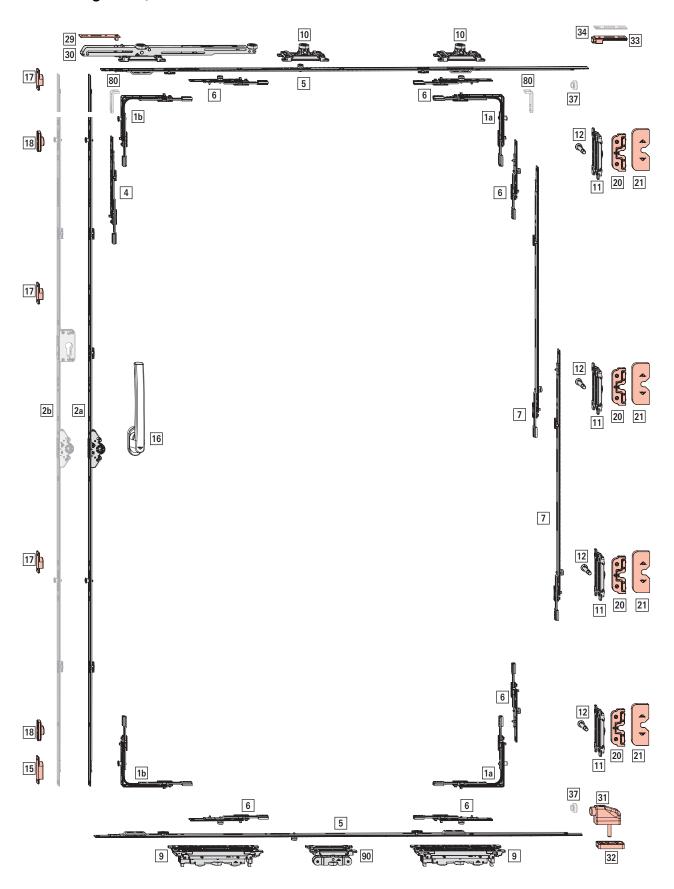
4.1 Timber

4.1.1 Diagram A, K

Application range

SRW: 1500 - 3000 mm

SRH: 2000 - 3600 mm

S.kg: max. 400 kg

[1a]	Corner drive	With E cam	🛒 2
[1b]		With V cam	🛒 2

⊚#	⊚	№
1	E	260275
1	V	260272

[2a]	VT espagnolette → *from page 77*	🛒 1
	Alternatively:	
[2b]	VT espagnolette, lockable → *from page 77*	

[4]	Espagnolette extension, SRH > 2000 mm

▭	🗲	⊚#	⊚	№
200	Y	–	–	308267
400	Y	–	–	297858
600	Y	1	V	337711

Size-specific combinations:

↕	▭	⊚#	⊚	№
2000 – 2200	200 KU	–	–	308267
2201 – 2400	400 KU	–	–	297858
2401 – 2600	200 KU	–	–	308267
2601 – 2800	400 KU	–	–	297858
2801 – 3000	600 KU	1	V	337711
3001 – 3200	200 KU	–	–	308267
	600 KU	1	V	337711
3201 – 3400	400 KU	–	–	297858
	600 KU	1	V	337711
3401 – 3600	600 KU	1	V	337711
	600 KU	1	V	337711

Centre lock (CL)

[5]	CL component, horizontal

▭	🗲	⊚#	⊚	№
200	Y	–	–	308267
400	Y	–	–	297858
1190	Y	1	K	862360
1440	Y	1	K	862361
1790	Y	2	K	862362
2190	Y	2	K	862363

Size-specific combinations:

↔	▭	🗲	⊚#	⊚	№
1500 – 1660	1190	1180	1	K	862360
1661 – 1910	1440	1430	1	K	862361
1911 – 2110	1440	1430	1	K	862361
	200	200	–	–	308267
2111 – 2260	1790	1780	2	K	862362
2261 – 2460	1790	1780	2	K	862362
	200	200	–	–	308267
2461 – 2660	2190	2180	2	K	862363
2661 – 2860	200	200	–	–	308267
	2190	2180	2	K	862363
2861 – 3000	400	400	–	–	297858
	2190	2180	2	K	862363

[6]	CL component 130, horizontal and vertical		🛒 6

▭	🗲	⊚#	⊚	№
130	Y	1	K	862364

[7]	CL component, vertical, on the mullion

▭	🗲	⊚#	⊚	№
200	Y	–	–	308267
400	Y	–	–	297858
600	Y	1	K	862366

Size-specific combinations:

↕	▭	⊚#	⊚	№
2000 – 2200	200 KU	–	–	308267
	600 KU	1	K	862366
2201 – 2400	400 KU	–	–	297858
	600 KU	1	K	862366
2401 – 2600	600 KU	1	K	862366
	600 KU	1	K	862366
2601 – 2800	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
2801 – 3000	200 KU	–	–	308267
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3001 – 3200	400 KU	–	–	297858
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3201 – 3400	400 KU	–	–	297858
	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
3401 – 3600	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
	600 KU	1	K	862366

[9]	Roller unit	🛒 2

▱	⬚⬚	№
41	Left	862367
	Right	862368

[90] Stabilisation unit

41	Left	891368
	Right	891369

≤ 2110	1
> 2110	2

[10] Control unit, on the mullion side and in the centre → *from page 85*   🛒 1-3

Alternatively (on the mullion side):

Control unit set with Soft function (incl. activator) → *from page 85*   🛒 1

41	Left	862371
	Right	862372

[*] Control unit set with Soft function, on the espagnolette side → *from page 85*   🛒 1

Alternatively:

[10] Control unit

Contents:

[*]	💬	#
[29]	Activator	1
[30]	Control unit with Soft function	1

[11] Centre closer, adjustable

41	Left	862395
	Right	862396

≤ 2400	3
2401 – 3400	4
> 3400	5

[12] MUL locking cam, adjustable

✳		▭	№
Gasket compression adjustable	25	895955
	26	895966
	27	895970
	32	786728
	35.5	858628
	36	895972
	39.5	839047
	42	861550
	44	895973
	45.8	791838
	47.8	788696
	49	895974

✳	▭	№
	53.5	839045

≤ 2400	3
2401 – 3400	4
> 3400	5

[15] Striker to prevent incorrect operation   🛒 1

💬	№
Striker to prevent incorrect operation	822789

[16] Handle (200 mm handle length) → CTL_1   🛒 1
Recessed grip (43 mm distance), not sh. →   🛒 1 CTL_1

[17] Striker

⫟	▯▯	№
Screw-on	–	744579
Can be routed in	Left	798224
	Right	798245

≤ 2800	3
2801 – 3400	4
> 3400	5

[18] Buffer   🛒 2

14	635307

[20] MUL striker

⫟	№
Screw-on	793493
Can be routed in	798223

≤ 2400	3
2401 – 3400	4
> 3400	5

[21] Cover cap for MUL striker, only in combination with MUL striker, screw-on.

🔧	🖌	№
R01.1	Natural silver	819632
R05.3	Medium bronze	819631
R06.2	Jet black	798979
R07.2	Traffic white	808054

≤ 2400	3
2401 – 3400	4
> 3400	5

[31] End stop, profile-related   🛒 1

Alternatively: [37] Rubber buffer ➔ *from page 87*			
💬	🎨	🖌️	№
End stop	RAL 7004	Signal grey	2006569
	RAL 9005	Jet black	349600

[32] End stop packer, profile-related			
💬	🎨	🖌️	№
	RAL 7004	Signal grey	2007421
	RAL 9005	Jet black	477263

[33] Stopper, cannot be used in conjunction with a control unit with SoftOpen and SoftStop on the mullion. Alternatively: [37] Rubber buffer ➔ *from page 87*	🛒 1
💬	№
Stopper	800196

[34] Packer; profile-related quantity [1]	
💬	№
Packer	800197

Optional

[80] Tilt protection device; can only be used without control unit with Soft function.	🛒 2
↕	↔	№
2000 – 3600	1500 – 3000	897049

[1]   Only use the number of packers that is specified in the profile assessment.

4.1.2   Diagram A', K'

Application range

SRW: 1500 - 3000 mm

SRH: 2000 - 3600 mm

S.kg: max. 400 kg

[1a]	Corner drive	With E cam	🛒 2
[1b]		With V cam	🛒 2

⚙#	⚙	№
1	E	260275
1	V	260272

[2a]	VT espagnolette → *from page 77*	🛒 1
	Alternatively:	
[2b]	VT espagnolette, lockable → *from page 77*	

[4] Espagnolette extension, SRH > 2000 mm

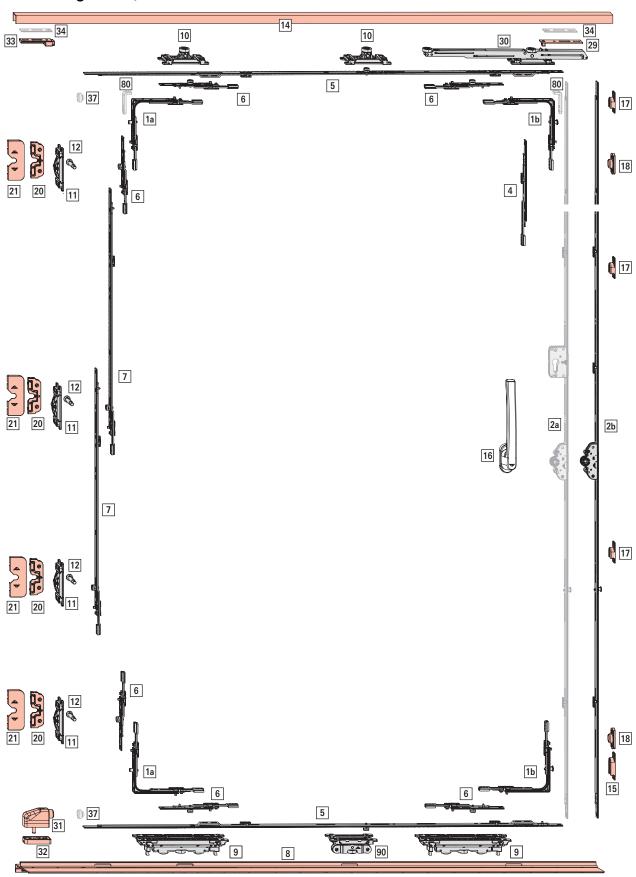| ▭	▨	⚙#	⚙	№
200	Y	–	–	308267
400	Y	–	–	297858
600	Y	1	V	337711

Size-specific combinations:

↕	▭	⚙#	⚙	№
2000 – 2200	200 KU	–	–	308267
2201 – 2400	400 KU	–	–	297858
2401 – 2600	200 KU	–	–	308267
2601 – 2800	400 KU	–	–	297858
2801 – 3000	600 KU	1	V	337711
3001 – 3200	200 KU	–	–	308267
	600 KU	1	V	337711
3201 – 3400	400 KU	–	–	297858
	600 KU	1	V	337711
3401 – 3600	600 KU	1	V	337711
	600 KU	1	V	337711

Centre lock (CL)

[5] CL component, horizontal

▭	▨	⚙#	⚙	№
200	Y	–	–	308267
400	Y	–	–	297858
1190	Y	1	K	862360
1440	Y	1	K	862361
1790	Y	2	K	862362
2190	Y	2	K	862363

Size-specific combinations:

↔	▭	▨	⚙#	⚙	№
1500 – 1660	1190	1180	1	K	862360
1661 – 1910	1440	1430	1	K	862361
1911 – 2110	1440	1430	1	K	862361
	200	200	–	–	308267
2111 – 2260	1790	1780	2	K	862362
2261 – 2460	1790	1780	2	K	862362
	200	200	–	–	308267
2461 – 2660	2190	2180	2	K	862363
2661 – 2860	200	200	–	–	308267
	2190	2180	2	K	862363
2861 – 3000	400	400	–	–	297858
	2190	2180	2	K	862363

[6] CL component 130, horizontal and vertical 🛒 6

▭	▨	⚙#	⚙	№
130	Y	1	K	862364

[7] CL component, vertical, on the mullion

▭	▨	⚙#	⚙	№
200	Y	–	–	308267
400	Y	–	–	297858
600	Y	1	K	862366

Size-specific combinations:

↕	▭	⚙#	⚙	№
2000 – 2200	200 KU	–	–	308267
	600 KU	1	K	862366
2201 – 2400	400 KU	–	–	297858
	600 KU	1	K	862366
2401 – 2600	600 KU	1	K	862366
	600 KU	1	K	862366
2601 – 2800	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
2801 – 3000	200 KU	–	–	308267
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3001 – 3200	400 KU	–	–	297858
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3201 – 3400	400 KU	–	–	297858
	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
3401 – 3600	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
	600 KU	1	K	862366

[8] Roller track 🛒 1

▭	№
3200	807733
6400	807734

[9] Roller unit 🛒 2

📦	🔲	№
41	Left	862367
	Right	862368

INFO
DIN L: order right components.

DIN R: order left components.

[90] Stabilisation unit

📦	🔲	№
41	Left	891368
	Right	891369

↦	🛒
≤ 2110	1
> 2110	2

INFO
DIN L: order right components.

DIN R: order left components.

[10] Control unit, on the mullion side and in the centre → *from page 85* 🛒 1-3
Alternatively (on the mullion side):
Control unit set with Soft function (incl. activator) → *from page 85* 🛒 1

▭	🔲	№
41	Left	862371
	Right	862372

INFO
DIN L: order right components.

DIN R: order left components.

[*] Control unit set with Soft function, on the espagnolette side → *from page 85* 🛒 1
Alternatively:
[10] Control unit
Contents:

[*]	💬	#
[29]	Activator	1
[30]	Control unit with Soft function	1

INFO
DIN L: order right components.

DIN R: order left components.

[11] Centre closer, adjustable

📦	🔲	№
41	Left	862395
	Right	862396

↕	🛒
≤ 2400	3
2401 – 3400	4
> 3400	5

INFO
DIN L: order right components.

DIN R: order left components.

[12] MUL locking cam, adjustable

✳	▭	№
Gasket compression adjustable	25	895955
	26	895966
	27	895970
	32	786728
	35.5	858628
	36	895972
	39.5	839047
	42	861550
	44	895973
	45.8	791838
	47.8	788696
	49	895974
	53.5	839045

↕	🛒
≤ 2400	3
2401 – 3400	4
> 3400	5

[14] Guide track 🛒 1

▭	№
3200	782921
6400	782922

[15] Striker to prevent incorrect operation 🛒 1

💬	№
Striker to prevent incorrect operation	822789

[16] Handle (200 mm handle length) → CTL_1 🛒 1
Recessed grip (43 mm distance), not sh. → 🛒 1 CTL_1

[17] Striker

🔩	🔲	№
Screw-on	–	744579
Can be routed in	Left	798224

🔩		⬜⬜	№
		Right	798245

↕			🛒
≤ 2800			3
2801 – 3400			4
> 3400			5

[18] Buffer		🛒 2
📦		№
14		635307

[20] MUL striker		
🔩		№
Screw-on		793493
Can be routed in		798223

↕		🛒
≤ 2400		3
2401 – 3400		4
> 3400		5

[21] Cover cap for MUL striker, only in combination with MUL striker, screw-on.		
🎨	🖌	№
R01.1	Natural silver	819632
R05.3	Medium bronze	819631
R06.2	Jet black	798979
R07.2	Traffic white	808054

↕		🛒
≤ 2400		3
2401 – 3400		4
> 3400		5

[31] End stop, profile-related			🛒 1
Alternatively:			
[37] Rubber buffer ➔ *from page 87*			
💬	🎨	🖌	№
End stop	RAL 7004	Signal grey	2006569
	RAL 9005	Jet black	349600

[32] End stop packer, profile-related			
💬	🎨	🖌	№
	RAL 7004	Signal grey	2007421
	RAL 9005	Jet black	477263

[33] Stopper, cannot be used in conjunction with a control unit with SoftOpen and SoftStop on the mullion.	🛒 1
Alternatively:	

[37] Rubber buffer ➔ *from page 87*	
💬	№
Stopper	800196

[34] Packer; profile-related quantity [2]	
💬	№
Packer	800197

Optional

[80] Tilt protection device; can only be used without control unit with Soft function.		🛒 2
↕	↔	№
2000 – 3600	1500 – 3000	897049

[2]   Only use the number of packers that is specified in the profile assessment.

4.1.3 Diagram C

Application range

SRW: 1500 - 3000 mm

SRH: 2000 - 3600 mm

S.kg: max. 400 kg

[1a]	Corner drive	With E cam	🛒 6
[1b]		With V cam	🛒 2

⊚#	⊚	№
1	E	260275
1	V	260272

[2a]	VT espagnolette → *from page 77*	🛒 1
	Alternatively:	
[2b]	VT espagnolette, lockable → *from page 77*	

[3]	VT espagnolette, second opening sash → *from page 77*	🛒 1

[4]	Espagnolette extension, SRH > 2000 mm

⊏⊐	🗲	⊚#	⊚	№
200	Y	–	–	308267
400	Y	–	–	297858
600	Y	1	V	337711

Size-specific combinations:

First or second opening sash

↕	⊏⊐	⊚#	⊚	№
2000 – 2200	200 KU	–	–	308267
2201 – 2400	400 KU	–	–	297858
2401 – 2600	200 KU	–	–	308267
2601 – 2800	400 KU	–	–	297858
2801 – 3000	600 KU	1	V	337711
3001 – 3200	200 KU	–	–	308267
	600 KU	1	V	337711
3201 – 3400	400 KU	–	–	297858
	600 KU	1	V	337711
3401 – 3600	600 KU	1	V	337711
	600 KU	1	V	337711

Centre lock (CL)

[5]	CL component, horizontal

⊏⊐	🗲	⊚#	⊚	№
200	Y	–	–	308267
400	Y	–	–	297858
1190	Y	1	K	862360
1440	Y	1	K	862361
1790	Y	2	K	862362
2190	Y	2	K	862363

Size-specific combinations:

First or second opening sash

↔	⊏⊐	🗲	⊚#	⊚	№
1500 – 1660	1190	1180	1	K	862360
1661 – 1910	1440	1430	1	K	862361
1911 – 2110	1440	1430	1	K	862361
	200	200	–	–	308267
2111 – 2260	1790	1780	2	K	862362
2261 – 2460	1790	1780	2	K	862362
	200	200	–	–	308267
2461 – 2660	2190	2180	2	K	862363
2661 – 2860	200	200	–	–	308267
	2190	2180	2	K	862363
2861 – 3000	400	400	–	–	297858
	2190	2180	2	K	862363

[6]	CL component 130, horizontal	🛒 13

⊏⊐	🗲	⊚#	⊚	№
130	Y	1	K	862364

[7]	CL component, vertical, on the mullion

⊏⊐	🗲	⊚#	⊚	№
200	Y	–	–	308267
400	Y	–	–	297858
600	Y	1	K	862366

Size-specific combinations:

First opening sash:

↕	⊏⊐	⊚#	⊚	№
2000 – 2200	200 KU	–	–	308267
	600 KU	1	K	862366
2201 – 2400	400 KU	–	–	297858
	600 KU	1	K	862366
2401 – 2600	600 KU	1	K	862366
	600 KU	1	K	862366
2601 – 2800	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
2801 – 3000	200 KU	–	–	308267
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3001 – 3200	400 KU	–	–	297858
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3201 – 3400	400 KU	–	–	297858
	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366

↕	▭	⊙#	⊚	№
3401 – 3600	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
	600 KU	1	K	862366

Second opening sash:

↕	▭	⊙#	⊚	№
2000 – 2200	200 KU	–	–	308267
	600 KU	1	K	862366
2201 – 2400	400 KU	–	–	297858
	600 KU	1	K	862366
2401 – 2600	600 KU	1	K	862366
	600 KU	1	K	862366
2601 – 2800	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
2801 – 3000	200 KU	–	–	308267
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3001 – 3200	400 KU	–	–	297858
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3201 – 3400	400 KU	–	–	297858
	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
3401 – 3600	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
	600 KU	1	K	862366

[9] Roller unit 🛒 4

▱	▯▯	№
41	Left	862367
	Right	862368

[90] Stabilisation unit

▱	▯▯	№
41	Left	891368
	Right	891369

↔	🛒
≤ 2110	2
> 2110	4

[10] Control unit, on the mullion side and in the centre → *from page 85* 🛒 2-6
Alternatively (on the mullion side):

Control unit set with Soft function (incl. activator) → *from page 85* 🛒 1-2

▭	▯▯	№
41	Left	862371
	Right	862372

[*] Control unit set with Soft function, on the espagnolette side → *from page 85* 🛒 2
Alternatively:
[10] Control unit
Contents:

[*]	💬	#
[29]	Activator	1
[30]	Control unit with Soft function	1

[11] Centre closer, adjustable

▱	▯▯	№
41	Left	862395
	Right	862396

↕	🛒
≤ 2400	6
2401 – 3400	8
> 3400	10

[12] MUL locking cam, adjustable

✳		▭	№
Gasket compression adjustable		25	895955
		26	895966
		27	895970
		32	786728
		35.5	858628
		36	895972
		39.5	839047
		42	861550
		44	895973
		45.8	791838
		47.8	788696
		49	895974
		53.5	839045

↕	🛒
≤ 2400	6
2401 – 3400	8
> 3400	10

[15] Striker to prevent incorrect operation 🛒 1

💬	№
Striker to prevent incorrect operation	822789

[16] Handle (200 mm handle length) → CTL_1 🛒 2

Recessed grip (43 mm distance), not sh. ➔ 🛒 2
CTL_1

[17] Striker, diagram C

	Nº
Screw-on	806824

	🛒
≤ 2800	3
2801 – 3400	4
> 3400	5

[18] Buffer 🛒 2

	Nº
15.7	2000419

[20] MUL striker

	Nº
Screw-on	793493
Can be routed in	798223

	🛒
≤ 2400	6
2401 – 3400	8
> 3400	10

[21] Cover cap for MUL striker, only in combination with MUL striker, screw-on.

		Nº
R01.1	Natural silver	819632
R05.3	Medium bronze	819631
R06.2	Jet black	798979
R07.2	Traffic white	808054

	🛒
≤ 2400	6
2401 – 3400	8
> 3400	10

[24] Pin, adjustable, for anti-pushback function 🛒 1

		Nº
Gasket compression adjustable	25 mm	895977
	26 mm	895984
	27 mm	895989
	32 mm	895994
	35.5 mm	858629
	36 mm	895999
	39.5 mm	839049
	42 mm	861551
	44 mm	896002
	49 mm	896005
	53.5 mm	839048

[25] Centre closer, adjustable, for anti-pushback function 🛒 1

		Nº
41	Left	862395
	Right	862396

INFO

DIN L: order right components.

DIN R: order left components.

[26] Striker for anti-pushback function 🛒 1

	Nº
Striker for anti-pushback function	810279

[27] Cover cap for striker for anti-pushback function 🛒 1

		Nº
R01.1	Natural silver	828482
R05.3	Medium bronze	828483
R06.2	Jet black	809717
R07.2	Traffic white	819351

[31] End stop, profile-related 🛒 2
Alternatively:
[37] Rubber buffer ➔ *from page 87*

			Nº
End stop	RAL 7004	Signal grey	2006569
	RAL 9005	Jet black	349600

[32] End stop packer, profile-related

			Nº
	RAL 7004	Signal grey	2007421
	RAL 9005	Jet black	477263

[33] Stopper, cannot be used in conjunction with a control unit with SoftOpen / SoftClose together with SoftStop on the mullion side / SoftStop on the espagnolette side. 🛒 2
Alternatively:
[37] Rubber buffer ➔ *from page 87*

	Nº
Stopper	800196

[34] Packer; profile-related quantity [3]

	Nº
Packer	800197

[*] Operating sequence control set, profile-related 🛒 1

	Nº
14	833203

[3] Only use the number of packers that is specified in the profile assessment.

Contents:

[*]	🗨	#
[49]	Bolt	1
[50]	Stop, routed	1
[51]	Countersunk screw, M5 x 20	1
[52]	Anti-lifting device	1

Optional

[33] **Stopper**, cannot be used in conjunction with a control unit with SoftOpen and SoftStop on the espagnolette side.	🛒 1
🗨	№
Stopper	800196

[34] **Packer**; profile-related quantity [4]	
🗨	№
Packer	800197

[4]   Only use the number of packers that is specified in the profile assessment.

4.1.4 Diagram C′

Application range

SRW: 1500 - 3000 mm

SRH: 2000 - 3600 mm

S.kg: max. 400 kg

[1a]	Corner drive	With E cam	🛒 6
[1b]		With V cam	🛒 2

⚙#	⚙	№
1	E	260275
1	V	260272

[2a]	VT espagnolette → *from page 77*	🛒 1
	Alternatively:	
[2b]	VT espagnolette, lockable → *from page 77*	

[3]	VT espagnolette, second opening sash → *from page 77*	🛒 1

[4] Espagnolette extension, SRH > 2000 mm

▭	🔩	⚙#	⚙	№
200	Y	–	–	308267
400	Y	–	–	297858
600	Y	1	V	337711

Size-specific combinations:

First or second opening sash

↕	▭	⚙#	⚙	№
2000 – 2200	200 KU	–	–	308267
2201 – 2400	400 KU	–	–	297858
2401 – 2600	200 KU	–	–	308267
2601 – 2800	400 KU	–	–	297858
2801 – 3000	600 KU	1	V	337711
3001 – 3200	200 KU	–	–	308267
	600 KU	1	V	337711
3201 – 3400	400 KU	–	–	297858
	600 KU	1	V	337711
3401 – 3600	600 KU	1	V	337711
	600 KU	1	V	337711

Centre lock (CL)

[5] CL component, horizontal

▭	🔩	⚙#	⚙	№
200	Y	–	–	308267
400	Y	–	–	297858
1190	Y	1	K	862360
1440	Y	1	K	862361
1790	Y	2	K	862362
2190	Y	2	K	862363

Size-specific combinations:

First or second opening sash

↔	▭	🔩	⚙#	⚙	№
1500 – 1660	1190	1180	1	K	862360
1661 – 1910	1440	1430	1	K	862361
1911 – 2110	1440	1430	1	K	862361
	200	200	–	–	308267
2111 – 2260	1790	1780	2	K	862362
2261 – 2460	1790	1780	2	K	862362
	200	200	–	–	308267
2461 – 2660	2190	2180	2	K	862363
2661 – 2860	200	200	–	–	308267
	2190	2180	2	K	862363
2861 – 3000	400	400	–	–	297858
	2190	2180	2	K	862363

[6] CL component 130, horizontal 🛒 13

▭	🔩	⚙#	⚙	№
130	Y	1	K	862364

[7] CL component, vertical, on the mullion

▭	🔩	⚙#	⚙	№
200	Y	–	–	308267
400	Y	–	–	297858
600	Y	1	K	862366

Size-specific combinations:

First opening sash:

↕	▭	⚙#	⚙	№
2000 – 2200	200 KU	–	–	308267
	600 KU	1	K	862366
2201 – 2400	400 KU	–	–	297858
	600 KU	1	K	862366
2401 – 2600	600 KU	1	K	862366
	600 KU	1	K	862366
2601 – 2800	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
2801 – 3000	200 KU	–	–	308267
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3001 – 3200	400 KU	–	–	297858
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3201 – 3400	400 KU	–	–	297858
	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366

↕	▭	⊚#	⊚	Nº
3401 – 3600	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
	600 KU	1	K	862366

Second opening sash:

↕	▭	⊚#	⊚	Nº
2000 – 2200	200 KU	–	–	308267
	600 KU	1	K	862366
2201 – 2400	400 KU	–	–	297858
	600 KU	1	K	862366
2401 – 2600	600 KU	1	K	862366
	600 KU	1	K	862366
2601 – 2800	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
2801 – 3000	200 KU	–	–	308267
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3001 – 3200	400 KU	–	–	297858
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3201 – 3400	400 KU	–	–	297858
	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
3401 – 3600	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
	600 KU	1	K	862366

[8] Roller track 🛒 1-2

▭	Nº
3200	807733
6400	807734

[9] Roller unit 🛒 4

⬛	☐☐	Nº
41	Left	862367
	Right	862368

> **INFO**
> DIN L: order right components.
> DIN R: order left components.

[90] Stabilisation unit

⬛	☐☐	Nº
41	Left	891368

⬛	☐☐	Nº
	Right	891369

↔	🛒
≤ 2110	2
> 2110	4

> **INFO**
> DIN L: order right components.
> DIN R: order left components.

[10] Control unit, on the mullion side and in the centre → *from page 85* 🛒 2-6
Alternatively (on the mullion side):
Control unit set with Soft function (incl. activator) → *from page 85* 🛒 1-2

▭	☐☐	Nº
41	Left	862371
	Right	862372

> **INFO**
> DIN L: order right components.
> DIN R: order left components.

[*] Control unit set with Soft function, on the espagnolette side → *from page 85* 🛒 2
Alternatively:
[10] Control unit

Contents:

[*]	💬	#
[29]	Activator	1
[30]	Control unit with Soft function	1

> **INFO**
> DIN L: order right components.
> DIN R: order left components.

[11] Centre closer, adjustable

⬛	☐☐	Nº
41	Left	862395
	Right	862396

↕	🛒
≤ 2400	6
2401 – 3400	8
> 3400	10

> **INFO**
> DIN L: order right components.
> DIN R: order left components.

[12] MUL locking cam, adjustable

✳	▭	№
Gasket compression adjustable	25	895955
	26	895966
	27	895970
	32	786728
	35.5	858628
	36	895972
	39.5	839047
	42	861550
	44	895973
	45.8	791838
	47.8	788696
	49	895974
	53.5	839045

↕	🛒
≤ 2400	6
2401 – 3400	8
> 3400	10

[14] Guide track 🛒 1-2

▭	№
3200	782921
6400	782922

[15] Striker to prevent incorrect operation 🛒 1

💬	№
Striker to prevent incorrect operation	822789

[16] Handle (200 mm handle length) → CTL_1 🛒 2
Recessed grip (43 mm distance), not sh. → 🛒 2 CTL_1

[17] Striker, diagram C

🔩	№
Screw-on	806824

↕	🛒
≤ 2800	3
2801 – 3400	4
> 3400	5

[18] Buffer, diagram C

📦	№
15.7	2000419

[20] MUL striker

🔩	№
Screw-on	793493

🔩	№
Can be routed in	798223

↕	🛒
≤ 2400	6
2401 – 3400	8
> 3400	10

[21] Cover cap for MUL striker, only in combination with MUL striker, screw-on.

🎨	🖌	№
R01.1	Natural silver	819632
R05.3	Medium bronze	819631
R06.2	Jet black	798979
R07.2	Traffic white	808054

↕	🛒
≤ 2400	6
2401 – 3400	8
> 3400	10

[24] Pin, adjustable, for anti-pushback function 🛒 1

✳	▭	№
Gasket compression adjustable	25 mm	895977
	26 mm	895984
	27 mm	895989
	32 mm	895994
	35.5 mm	858629
	36 mm	895999
	39.5 mm	839049
	42 mm	861551
	44 mm	896002
	49 mm	896005
	53.5 mm	839048

[25] Centre closer, adjustable, for anti-pushback function 🛒 1

📦	⬚⬚	№
41	Left	862395
	Right	862396

[26] Striker for anti-pushback function 🛒 1

💬	№
Striker for anti-pushback function	810279

[27] Cover cap for striker for anti-pushback function 🛒 1

🎨	🖌	№
R01.1	Natural silver	828482
R05.3	Medium bronze	828483
R06.2	Jet black	809717
R07.2	Traffic white	819351

[31] End stop, profile-related 🛒 2
Alternatively:

[37]	Rubber buffer → *from page 87*		
💬	🎨	✏️	№
End stop	RAL 7004	Signal grey	2006569
	RAL 9005	Jet black	349600

[32]	**End stop packer**, profile-related		
💬	🎨	✏️	№
	RAL 7004	Signal grey	2007421
	RAL 9005	Jet black	477263

[33] **Stopper**, cannot be used in conjunction with a control unit with SoftOpen / SoftClose together with SoftStop on the mullion side / SoftStop on the espagnolette side. Alternatively: [37] Rubber buffer → *from page 87*	🛒 2

💬	№
Stopper	800196

[34] **Packer**; profile-related quantity [5]	

💬	№
Packer	800197

[*] **Operating sequence control set**, profile-related	🛒 1

📦	№
14	833203

Contents:

[*]	💬	#
[49]	Bolt	1
[50]	Stop, routed	1
[51]	Countersunk screw, M5 x 20	1
[52]	Anti-lifting device	1

Optional

[33] **Stopper**, cannot be used in conjunction with a control unit with SoftOpen and SoftStop on the espagnolette side.	🛒 1

💬	№
Stopper	800196

[34] **Packer**; profile-related quantity [6]	

💬	№
Packer	800197

[5]   Only use the number of packers that is specified in the profile assessment.

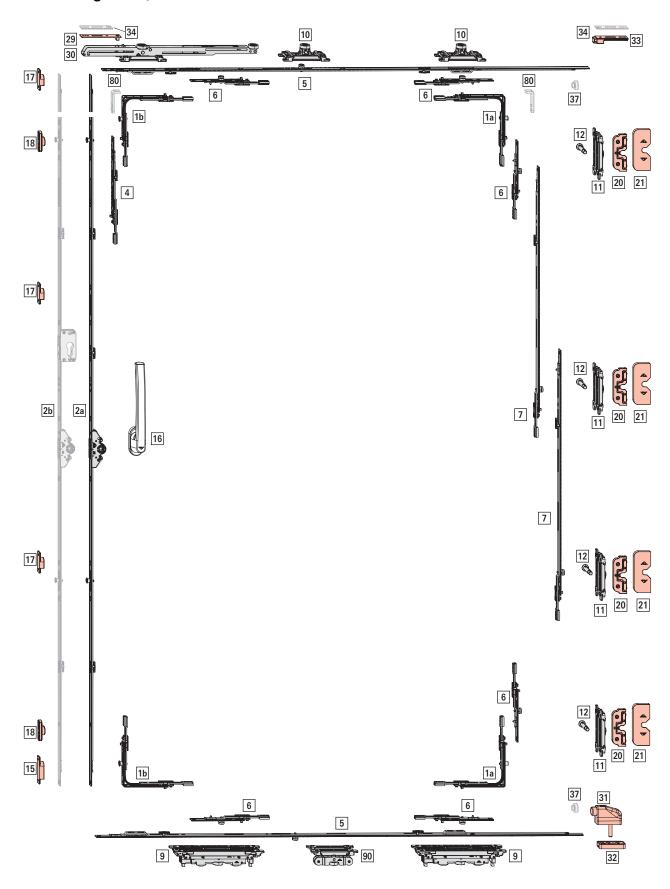[6]   Only use the number of packers that is specified in the profile assessment.

4.2 PVC

4.2.1 Diagram A, K

Application range

SRW: 1500 - 3000 mm

SRH: 2000 - 3600 mm

S.kg: max. 400 kg

[1a]	Corner drive	With E cam	🛒 2
[1b]		With V cam	🛒 2

⊚#	⊚	№
1	E	260275
1	V	260272

[2a]	VT espagnolette → *from page 77*	🛒 1
	Alternatively:	
[2b]	VT espagnolette, lockable → *from page 77*	

[4]	Espagnolette extension, SRH > 2000 mm			

▭	〰	⊚#	⊚	№
200	Y	–	–	308267
400	Y	–	–	297858
600	Y	1	V	337711

Size-specific combinations:

↕	▭	⊚#	⊚	№
2000 – 2200	200 KU	–	–	308267
2201 – 2400	400 KU	–	–	297858
2401 – 2600	200 KU	–	–	308267
2601 – 2800	400 KU	–	–	297858
2801 – 3000	600 KU	1	V	337711
3001 – 3200	200 KU	–	–	308267
	600 KU	1	V	337711
3201 – 3400	400 KU	–	–	297858
	600 KU	1	V	337711
3401 – 3600	600 KU	1	V	337711
	600 KU	1	V	337711

Centre lock (CL)

[5]	CL component, horizontal			

▭	〰	⊚#	⊚	№
200	Y	–	–	308267
400	Y	–	–	297858
1190	Y	1	K	862360
1440	Y	1	K	862361
1790	Y	2	K	862362
2190	Y	2	K	862363

Size-specific combinations:

↔	▭	〰	⊚#	⊚	№
1500 – 1660	1190	1180	1	K	862360
1661 – 1910	1440	1430	1	K	862361
1911 – 2110	1440	1430	1	K	862361
	200	200	–	–	308267
2111 – 2260	1790	1780	2	K	862362
2261 – 2460	1790	1780	2	K	862362
	200	200	–	–	308267
2461 – 2660	2190	2180	2	K	862363
2661 – 2860	200	200	–	–	308267
	2190	2180	2	K	862363
2861 – 3000	400	400	–	–	297858
	2190	2180	2	K	862363

[6]	CL component 130, horizontal and vertical			🛒 6

▭	〰	⊚#	⊚	№
130	Y	1	K	862364

[7]	CL component, vertical, on the mullion			

▭	〰	⊚#	⊚	№
200	Y	–	–	308267
400	Y	–	–	297858
600	Y	1	K	862366

Size-specific combinations:

↕	▭	⊚#	⊚	№
2000 – 2200	200 KU	–	–	308267
	600 KU	1	K	862366
2201 – 2400	400 KU	–	–	297858
	600 KU	1	K	862366
2401 – 2600	600 KU	1	K	862366
	600 KU	1	K	862366
2601 – 2800	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
2801 – 3000	200 KU	–	–	308267
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3001 – 3200	400 KU	–	–	297858
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3201 – 3400	400 KU	–	–	297858
	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
3401 – 3600	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
	600 KU	1	K	862366

[9]	Roller unit		🛒 2

◰	▥	№
41	Left	862367
	Right	862368

[90] Stabilisation unit

🔲	🔳	№
41	Left	891368
	Right	891369

↔		🛒
≤ 2110		1
> 2110		2

[10] Control unit, on the mullion side and in the centre → *from page 85* 🛒 1-3
Alternatively (on the mullion side):
Control unit set with Soft function (incl. activator) → *from page 85* 🛒 1

▭	🔳	№
41	Left	862371
	Right	862372

[*] Control unit set with Soft function, on the espagnolette side → *from page 85* 🛒 1
Alternatively:
[10] Control unit
Contents:

[*]	💬	#
[29]	Activator	1
[30]	Control unit with Soft function	1

[11] Centre closer, adjustable

🔲	🔳	№
41	Left	862395
	Right	862396

↕		🛒
≤ 2400		3
2401 – 3400		4
> 3400		5

[12] MUL locking cam, adjustable

✳	▭	№
Gasket compression adjustable	25	895955
	26	895966
	27	895970
	32	786728
	35.5	858628
	36	895972
	39.5	839047
	42	861550
	44	895973
	45.8	791838
	47.8	788696
	49	895974

✳	▭	№
	53.5	839045

↕		🛒
≤ 2400		3
2401 – 3400		4
> 3400		5

[15] Striker to prevent incorrect operation 🛒 1

💬	№
Striker to prevent incorrect operation	822789

[16] Handle (200 mm handle length) → CTL_1 🛒 1
Recessed grip (43 mm distance), not sh. → CTL_1 🛒 1

[17] Striker

⛏	№
Screw-on	744579

↕		🛒
≤ 2800		3
2801 – 3400		4
> 3400		5

[18] Buffer 🛒 2

🔲	№
14	635307

[20] MUL striker

⛏	№
Screw-on	793493

↕		🛒
≤ 2400		3
2401 – 3400		4
> 3400		5

[21] Cover cap for MUL striker, only in combination with MUL striker, screw-on.

🔩	🖌	№
R01.1	Natural silver	819632
R05.3	Medium bronze	819631
R06.2	Jet black	798979
R07.2	Traffic white	808054

↕		🛒
≤ 2400		3
2401 – 3400		4
> 3400		5

[31] End stop, profile-related 🛒 1
Alternatively:

[37] Rubber buffer ➔ *from page 87*			
💬	🎨	🖌	№
End stop	RAL 7004	Signal grey	2006569
	RAL 9005	Jet black	349600

[32] **End stop packer**, profile-related			
💬	🎨	🖌	№
	RAL 7004	Signal grey	2007421
	RAL 9005	Jet black	477263

[33] **Stopper**, cannot be used in conjunction with a control unit with SoftOpen and SoftStop on the mullion. Alternatively: [37] Rubber buffer ➔ *from page 87*	🛒 1
💬	№
Stopper	800196

[34] **Packer**; profile-related quantity [7]	
💬	№
Packer	800197

Optional

[80] **Tilt protection device**; can only be used without control unit with Soft function.	🛒 2
↕	↔	№
2000 – 3600	1500 – 3000	897049

[7]   Only use the number of packers that is specified in the profile assessment.

4.2.2 Diagram A', K'

Application range

SRW: 1500 - 3000 mm

SRH: 2000 - 3600 mm

S.kg: max. 400 kg

[1a]	**Corner drive**	With E cam	🛒 2
[1b]		With V cam	🛒 2

#⊙	⊙	№
1	E	260275
1	V	260272

[2a]	**VT espagnolette** → *from page 77*	🛒 1
	Alternatively:	
[2b]	VT espagnolette, lockable → *from page 77*	

[4]	**Espagnolette extension**, SRH > 2000 mm			

🟦	▨	#⊙	⊙	№
200	Y	–	–	308267
400	Y	–	–	297858
600	Y	1	V	337711

Size-specific combinations:

↕	🟦	#⊙	⊙	№
2000 – 2200	200 KU	–	–	308267
2201 – 2400	400 KU	–	–	297858
2401 – 2600	200 KU	–	–	308267
2601 – 2800	400 KU	–	–	297858
2801 – 3000	600 KU	1	V	337711
3001 – 3200	200 KU	–	–	308267
	600 KU	1	V	337711
3201 – 3400	400 KU	–	–	297858
	600 KU	1	V	337711
3401 – 3600	600 KU	1	V	337711
	600 KU	1	V	337711

Centre lock (CL)

[5]	**CL component**, horizontal			

🟦	▨	#⊙	⊙	№
200	Y	–	–	308267
400	Y	–	–	297858
1190	Y	1	K	862360
1440	Y	1	K	862361
1790	Y	2	K	862362
2190	Y	2	K	862363

Size-specific combinations:

↔	🟦	▨	#⊙	⊙	№
1500 – 1660	1190	1180	1	K	862360
1661 – 1910	1440	1430	1	K	862361
1911 – 2110	1440	1430	1	K	862361
	200	200	–	–	308267
2111 – 2260	1790	1780	2	K	862362

↔	🟦	▨	#⊙	⊙	№
2261 – 2460	1790	1780	2	K	862362
	200	200	–	–	308267
2461 – 2660	2190	2180	2	K	862363
2661 – 2860	200	200	–	–	308267
	2190	2180	2	K	862363
2861 – 3000	400	400	–	–	297858
	2190	2180	2	K	862363

[6]	**CL component 130**, horizontal and vertical		🛒 6	

🟦	▨	#⊙	⊙	№
130	Y	1	K	862364

[7]	**CL component**, vertical, on the mullion			

🟦	▨	#⊙	⊙	№
200	Y	–	–	308267
400	Y	–	–	297858
600	Y	1	K	862366

Size-specific combinations:

↕	🟦	#⊙	⊙	№
2000 – 2200	200 KU	–	–	308267
	600 KU	1	K	862366
2201 – 2400	400 KU	–	–	297858
	600 KU	1	K	862366
2401 – 2600	600 KU	1	K	862366
	600 KU	1	K	862366
2601 – 2800	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
2801 – 3000	200 KU	–	–	308267
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3001 – 3200	400 KU	–	–	297858
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3201 – 3400	400 KU	–	–	297858
	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
3401 – 3600	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
	600 KU	1	K	862366

[9]	**Roller unit**	🛒 2

📦	▥	№
41	Left	862367
	Right	862368

INFO
DIN L: order right components.

DIN R: order left components.

[90] Stabilisation unit

▱	▥	№
41	Left	891368
	Right	891369

↤↦		🛒
≤ 2110		1
> 2110		2

INFO
DIN L: order right components.

DIN R: order left components.

[10] Control unit, on the mullion side and in the centre → *from page 85* 🛒 1-3
Alternatively (on the mullion side):
Control unit set with Soft function (incl. activator) → *from page 85* 🛒 1

▭	▥	№
41	Left	862371
	Right	862372

INFO
DIN L: order right components.

DIN R: order left components.

[*] Control unit set with Soft function, on the espagnolette side → *from page 85* 🛒 1
Alternatively:
[10] Control unit
Contents:

[*]	💬	#
[29]	Activator	1
[30]	Control unit with Soft function	1

INFO
DIN L: order right components.

DIN R: order left components.

[11] Centre closer, adjustable

▱	▥	№
41	Left	862395
	Right	862396

↕		🛒
≤ 2400		3
2401 – 3400		4
> 3400		5

INFO
DIN L: order right components.

DIN R: order left components.

[12] MUL locking cam, adjustable

✳	▭	№
Gasket compression adjustable	25	895955
	26	895966
	27	895970
	32	786728
	35.5	858628
	36	895972
	39.5	839047
	42	861550
	44	895973
	45.8	791838
	47.8	788696
	49	895974
	53.5	839045

↕	🛒
≤ 2400	3
2401 – 3400	4
> 3400	5

[15] Striker to prevent incorrect operation 🛒 1

💬	№
Striker to prevent incorrect operation	822789

[16] Handle (200 mm handle length) → CTL_1 🛒 1
Recessed grip (43 mm distance), not sh. → CTL_1 🛒 1

[17] Striker

⛏	№
Screw-on	744579

↕	🛒
≤ 2800	3
2801 – 3400	4
> 3400	5

[18] Buffer 🛒 2

▱	№
14	635307

[20] MUL striker

	Nº
Screw-on	793493

≤ 2400	3
2401 – 3400	4
> 3400	5

[21] Cover cap for MUL striker, only in combination with MUL striker, screw-on.

		Nº
R01.1	Natural silver	819632
R05.3	Medium bronze	819631
R06.2	Jet black	798979
R07.2	Traffic white	808054

≤ 2400	3
2401 – 3400	4
> 3400	5

[31] End stop, profile-related 🛒 1
Alternatively:
[37] Rubber buffer → *from page 87*

			Nº
End stop	RAL 7004	Signal grey	2006569
	RAL 9005	Jet black	349600

[32] End stop packer, profile-related

			Nº
	RAL 7004	Signal grey	2007421
	RAL 9005	Jet black	477263

[33] Stopper, cannot be used in conjunction with a control unit with SoftOpen and SoftStop on the mullion. 🛒 1
Alternatively:
[37] Rubber buffer → *from page 87*

	Nº
Stopper	800196

[34] Packer; profile-related quantity [8]

	Nº
Packer	800197

Optional

[80] Tilt protection device; can only be used without control unit with Soft function. 🛒 2

		Nº
2000 – 3600	1500 – 3000	897049

[8] Only use the number of packers that is specified in the profile assessment.

4.2.3   Diagram A, K | RC 2 / RC 2 N

Application range

SRW: 1500 - 3000 mm

SRH: 2000 - 3600 mm

S.kg: max. 400 kg

[1a] **Corner drive**	With E cam	🛒 2
[1b]	With V cam	🛒 2

#		№
1	E	260275
1	V	260272

[2a] **VT espagnolette** → *from page 77*	🛒 1

[4] **Espagnolette extension**, SRH > 2000 mm				
200	Y	–	–	308267
400	Y	–	–	297858
600	Y	1	V	337711

Size-specific combinations:

↕		#		№
2000 – 2200	200 KU	–	–	308267
2201 – 2400	400 KU	–	–	297858
2401 – 2600	200 KU	–	–	308267
2601 – 2800	400 KU	–	–	297858
2801 – 3000	600 KU	1	V	337711
3001 – 3200	200 KU	–	–	308267
	600 KU	1	V	337711
3201 – 3400	400 KU	–	–	297858
	600 KU	1	V	337711
3401 – 3600	600 KU	1	V	337711
	600 KU	1	V	337711

Centre lock (CL)

[5] **CL component**, horizontal				
200	Y	–	–	308267
400	Y	–	–	297858
1190	Y	1	K	862360
1440	Y	1	K	862361
1790	Y	2	K	862362
2190	Y	2	K	862363

Size-specific combinations:

↔			#		№
1500 – 1660	1190	1180	1	K	862360
1661 – 1910	1440	1430	1	K	862361
1911 – 2110	1440	1430	1	K	862361
	200	200	–	–	308267
2111 – 2260	1790	1780	2	K	862362
2261 – 2460	1790	1780	2	K	862362
	200	200	–	–	308267

↔			#		№
2461 – 2660	2190	2180	2	K	862363
2661 – 2860	200	200	–	–	308267
	2190	2180	2	K	862363
2861 – 3000	400	400	–	–	297858
	2190	2180	2	K	862363

[6] **CL component 130**, horizontal and vertical				🛒 6
130	Y	1	K	862364

[7] **CL component**, vertical, on the mullion				
400	Y	1	K	862365
600	Y	1	K	862366

Size-specific combinations:

↕		#		№
2000 – 2200	400 KU	1	K	862365
	600 KU	1	K	862366
2201 – 2300	400 KU	1	K	862365
	400 KU	1	K	862365
	400 KU	1		862365
2301 – 2500	400 KU	1	K	862365
	400 KU	1	K	862365
	600 KU	1	K	862366
2501 – 2700	400 KU	1	K	862365
	600 KU	1	K	862366
	600 KU	1	K	862366
2701 – 2900	400 KU	1	K	862365
	600 KU	1	K	862366
	400 KU	1	K	862365
	400 KU	1	K	862365
2901 – 3100	400 KU	1	K	862365
	600 KU	1	K	862366
	600 KU	1	K	862366
	400 KU	1	K	862365
3101 – 3300	400 KU	1	K	862365
	600 KU	1	K	862366
	600 KU	1	K	862366
	600 KU	1	K	862366
3301 – 3500	400 KU	1	K	862365
	600 KU	1	K	862366
	600 KU	1	K	862366
	400 KU	1	K	862365
	400 KU	1	K	862365
3501 – 3600	400 KU	1	K	862365
	600 KU	1	K	862366
	600 KU	1	K	862366
	600 KU	1	K	862366
	400 KU	1	K	862365

[9] Roller unit 🛒 2

📦	🔲	Nº
41	Left	862367
	Right	862368

[90] Stabilisation unit

📦	🔲	Nº
41	Left	891368
	Right	891369

↤↦	🛒
≤ 2110	1
> 2110	2

[10] Control unit, on the mullion side and in the centre → *from page 85* — 🛒 1-3
Alternatively (on the mullion side):
Control unit set with Soft function (incl. activator) → *from page 85* — 🛒 1

▭	🔲	Nº
41	Left	862371
	Right	862372

[*] Control unit set with Soft function, on the espagnolette side → *from page 85* — 🛒 1
Alternatively:
[10] Control unit
Contents:

[*]	💬	#
[29]	Activator	1
[30]	Control unit with Soft function	1

[11] Centre closer, adjustable

📦	🔲	Nº
41	Left	862395
	Right	862396

↕	🛒
≤ 2100	4
2101 – 2700	5
2701 – 3300	6
> 3300	7

[12] MUL locking cam, adjustable

✳		▭	Nº
Gasket compression adjustable	25		895955
	26		895966
	27		895970
	32		786728
	35.5		858628
	36		895972
	39.5		839047

✳	▭	Nº
	42	861550
	44	895973
	45.8	791838
	47.8	788696
	49	895974
	53.5	839045

↕	🛒
≤ 2100	4
2101 – 2700	5
2701 – 3300	6
> 3300	7

[15] SEC striker to prevent incorrect operation 🛒 1

💬	Nº
SEC striker to prevent incorrect operation	822796

[16] Handle, lockable (200 mm handle length) → CTL_1 — 🛒 1
Recessed grip (43 mm distance), not sh. → CTL_1 — 🛒 1

[17] SEC striker

🔩	Nº
Screw-on	798226

↕	🛒
≤ 2800	3
2801 – 3400	4
> 3400	5

[18] Buffer 🛒 2

📦	Nº
14	635307

[20] SEC MUL striker

💬	Nº
SEC MUL striker	833688

↕	🛒
≤ 2100	4
2101 – 2700	5
2701 – 3300	6
> 3300	7

[22] Drilling protection 🛒 1

💬	Nº
Drilling protection	770965

[24] Pin, adjustable, for anti-pushback function 🛒 2

✳	▭	Nº
Gasket compression adjustable	25 mm	895977
	26 mm	895984
	27 mm	895989
	32 mm	895994
	35.5 mm	858629
	36 mm	895999
	39.5 mm	839049
	42 mm	861551
	44 mm	896002
	49 mm	896005
	53.5 mm	839048

[25] Centre closer, adjustable, for anti-pushback function 🛒 2

▱	⬚⬚	Nº
41	Left	862395
	Right	862396

ℹ INFO

DIN L: order right components.

DIN R: order left components.

[26] Striker for anti-pushback function 🛒 2

💬		Nº
Striker for anti-pushback function		810279

[27] Cover cap for SEC MUL striker / striker for anti-pushback function

🎨	🖌	Nº
R01.1	Natural silver	828482
R05.3	Medium bronze	828483
R06.2	Jet black	809717
R07.2	Traffic white	819351

↕		🛒
≤ 2100		6
2101 – 2700		7
2701 – 3300		8
> 3300		9

[31] End stop, profile-related 🛒 1

Alternatively:

[37] Rubber buffer ➔ *from page 87*

💬	🎨	🖌	Nº
End stop	RAL 7004	Signal grey	2006569
	RAL 9005	Jet black	349600

[32] End stop packer, profile-related

💬	🎨	🖌	Nº
	RAL 7004	Signal grey	2007421

[9] Only use the number of packers that is specified in the profile assessment.

💬	🎨	🖌	Nº
	RAL 9005	Jet black	477263

[33] Stopper, cannot be used in conjunction with a control unit with SoftOpen and SoftStop on the mullion. 🛒 1

Alternatively:

[37] Rubber buffer ➔ *from page 87*

💬		Nº
Stopper		800196

[34] Packer; profile-related quantity [9]

💬		Nº
Packer		800197

Optional

[80] Tilt protection device; can only be used without control unit with Soft function. 🛒 2

↕	↔	Nº
2000 – 3600	1500 – 3000	897049

SKG** info clip, not sh. 🛒 1

💬	ℹ	🎨	🖌	Nº
SKG** info clip	For clipping onto the gearbox	R07.2	Traffic white	331459

4.2.4 Diagram C

Application range

SRW: 1500 - 3000 mm

SRH: 2000 - 3600 mm

S.kg: max. 400 kg

[1a]	Corner drive	With E cam	🛒 6
[1b]		With V cam	🛒 2

⊚#	⊚	№
1	E	260275
1	V	260272

[2a]	VT espagnolette → *from page 77*	🛒 1
	Alternatively:	
[2b]	VT espagnolette, lockable → *from page 77*	

[3]	VT espagnolette, second opening sash → *from page 77*	🛒 1

[4]	Espagnolette extension, SRH > 2000 mm

▭	▥	⊚#	⊚	№
200	Y	–	–	308267
400	Y	–	–	297858
600	Y	1	V	337711

Size-specific combinations:

First or second opening sash

↕	▭	⊚#	⊚	№
2000 – 2200	200 KU	–	–	308267
2201 – 2400	400 KU	–	–	297858
2401 – 2600	200 KU	–	–	308267
2601 – 2800	400 KU	–	–	297858
2801 – 3000	600 KU	1	V	337711
3001 – 3200	200 KU	–	–	308267
	600 KU	1	V	337711
3201 – 3400	400 KU	–	–	297858
	600 KU	1	V	337711
3401 – 3600	600 KU	1	V	337711
	600 KU	1	V	337711

Centre lock (CL)

[5]	CL component, horizontal

▭	▥	⊚#	⊚	№
200	Y	–	–	308267
400	Y	–	–	297858
1190	Y	1	K	862360
1440	Y	1	K	862361
1790	Y	2	K	862362
2190	Y	2	K	862363

Size-specific combinations:

First or second opening sash

⟷	▭	▥	⊚#	⊚	№
1500 – 1660	1190	1180	1	K	862360
1661 – 1910	1440	1430	1	K	862361
1911 – 2110	1440	1430	1	K	862361
	200	200	–	–	308267
2111 – 2260	1790	1780	2	K	862362
2261 – 2460	1790	1780	2	K	862362
	200	200	–	–	308267
2461 – 2660	2190	2180	2	K	862363
2661 – 2860	200	200	–	–	308267
	2190	2180	2	K	862363
2861 – 3000	400	400	–	–	297858
	2190	2180	2	K	862363

[6]	CL component 130, horizontal	🛒 13

▭	▥	⊚#	⊚	№
130	Y	1	K	862364

[7]	CL component, vertical, on the mullion

▭	▥	⊚#	⊚	№
200	Y	–	–	308267
400	Y	–	–	297858
600	Y	1	K	862366

Size-specific combinations:

First opening sash:

↕	▭	⊚#	⊚	№
2000 – 2200	200 KU	–	–	308267
	600 KU	1	K	862366
2201 – 2400	400 KU	–	–	297858
	600 KU	1	K	862366
2401 – 2600	600 KU	1	K	862366
	600 KU	1	K	862366
2601 – 2800	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
2801 – 3000	200 KU	–	–	308267
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3001 – 3200	400 KU	–	–	297858
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3201 – 3400	400 KU	–	–	297858
	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366

↕	▭	☉#	☉	Nº
3401 – 3600	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
	600 KU	1	K	862366

Second opening sash:

↕	▭	☉#	☉	Nº
2000 – 2200	200 KU	–	–	308267
	600 KU	1	K	862366
2201 – 2400	400 KU	–	–	297858
	600 KU	1	K	862366
2401 – 2600	600 KU	1	K	862366
	600 KU	1	K	862366
2601 – 2800	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
2801 – 3000	200 KU	–	–	308267
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3001 – 3200	400 KU	–	–	297858
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3201 – 3400	400 KU	–	–	297858
	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
3401 – 3600	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
	600 KU	1	K	862366

[9] Roller unit 🛒 4

▱	〇〇	Nº
41	Left	862367
	Right	862368

[90] Stabilisation unit

▱	〇〇	Nº
41	Left	891368
	Right	891369

↔	🛒
≤ 2110	2
> 2110	4

[10] Control unit, on the mullion side and in the centre → *from page 85* 🛒 2-6
Alternatively (on the mullion side):

Control unit set with Soft function (incl. activator) → *from page 85* 🛒 1-2

▭	〇〇	Nº
41	Left	862371
	Right	862372

[*] Control unit set with Soft function, on the espagnolette side → *from page 85* 🛒 2
Alternatively:
[10] Control unit

Contents:

[*]	💬	#
[29]	Activator	1
[30]	Control unit with Soft function	1

[11] Centre closer, adjustable

▱	〇〇	Nº
41	Left	862395
	Right	862396

↕	🛒
≤ 2400	6
2401 – 3400	8
> 3400	10

[12] MUL locking cam, adjustable

✳	▭	Nº
Gasket compression adjustable	25	895955
	26	895966
	27	895970
	32	786728
	35.5	858628
	36	895972
	39.5	839047
	42	861550
	44	895973
	45.8	791838
	47.8	788696
	49	895974
	53.5	839045

↕	🛒
≤ 2400	6
2401 – 3400	8
> 3400	10

[15] Striker to prevent incorrect operation 🛒 1

💬	Nº
Striker to prevent incorrect operation	822789

[16] Handle (200 mm handle length) → CTL_1 🛒 2

Recessed grip (43 mm distance), not sh. → 🛒 2 CTL_1	

[17] Striker

🔩	№
Screw-on	744579

↕	🛒
≤ 2800	3
2801 – 3400	4
> 3400	5

[18] Buffer 🛒 2

📦	№
14	635307

[20] MUL striker

🔩	№
Screw-on	793493

↕	🛒
≤ 2400	6
2401 – 3400	8
> 3400	10

[21] Cover cap for MUL striker, only in combination with MUL striker, screw-on.

🎨	🖌	№
R01.1	Natural silver	819632
R05.3	Medium bronze	819631
R06.2	Jet black	798979
R07.2	Traffic white	808054

↕	🛒
≤ 2400	6
2401 – 3400	8
> 3400	10

[24] Pin, adjustable, for anti-pushback function 🛒 1

✳	▭	№
Gasket compression adjustable	25 mm	895977
	26 mm	895984
	27 mm	895989
	32 mm	895994
	35.5 mm	858629
	36 mm	895999
	39.5 mm	839049
	42 mm	861551
	44 mm	896002
	49 mm	896005
	53.5 mm	839048

[25] Centre closer, adjustable, for anti-pushback function 🛒 1

📦	▢▢	№
41	Left	862395
	Right	862396

> **INFO**
> DIN L: order right components.
> DIN R: order left components.

[26] Striker for anti-pushback function 🛒 1

💬	№
Striker for anti-pushback function	810279

[27] Cover cap for striker for anti-pushback function 🛒 1

🎨	🖌	№
R01.1	Natural silver	828482
R05.3	Medium bronze	828483
R06.2	Jet black	809717
R07.2	Traffic white	819351

[31] End stop, profile-related 🛒 2
Alternatively:
[37] Rubber buffer → *from page 87*

💬	🎨	🖌	№
End stop	RAL 7004	Signal grey	2006569
	RAL 9005	Jet black	349600

[32] End stop packer, profile-related

💬	🎨	🖌	№
	RAL 7004	Signal grey	2007421
	RAL 9005	Jet black	477263

[33] Stopper, cannot be used in conjunction with a control unit with SoftOpen / SoftClose together with SoftStop on the mullion side / SoftStop on the espagnolette side. 🛒 2
Alternatively:
[37] Rubber buffer → *from page 87*

💬	№
Stopper	800196

[34] Packer; profile-related quantity [10]

💬	№
Packer	800197

[*] Operating sequence control set, profile-related 🛒 1

📦	№
14	861110
31.3	833201

[10]   Only use the number of packers that is specified in the profile assessment.

⬢	№
31.7	833202
39.5	858557

Contents:

[*]	💬	#
[42]	Adapter	1
[43]	Anti-lifting device	1
[44]	Stop, first opening sash	1
[45]	Countersunk screw	1

Optional

[33] Stopper, cannot be used in conjunction with a control unit with SoftOpen and SoftStop on the espagnolette side.	🛒 1

💬	№
Stopper	800196

[34] Packer; profile-related quantity [11]

💬	№
Packer	800197

[11]   Only use the number of packers that is specified in the profile assessment.

4.2.5 Diagram C′

Application range

SRW: 1500 - 3000 mm

SRH: 2000 - 3600 mm

S.kg: max. 400 kg

[1a]	**Corner drive**	With E cam	🛒 6
[1b]		With V cam	🛒 2

⊚#		Nº
1	E	260275
1	V	260272

[2a]	**VT espagnolette** → *from page 77*	🛒 1
	Alternatively:	
[2b]	VT espagnolette, lockable → *from page 77*	

[3]	**VT espagnolette**, second opening sash → *from page 77*	🛒 1

[4]	**Espagnolette extension**, SRH > 2000 mm

▭	▰	⊚#	⊚	Nº
200	Y	–	–	308267
400	Y	–	–	297858
600	Y	1	V	337711

Size-specific combinations:

First or second opening sash

↕	▭	⊚#	⊚	Nº
2000 – 2200	200 KU	–	–	308267
2201 – 2400	400 KU	–	–	297858
2401 – 2600	200 KU	–	–	308267
2601 – 2800	400 KU	–	–	297858
2801 – 3000	600 KU	1	V	337711
3001 – 3200	200 KU	–	–	308267
	600 KU	1	V	337711
3201 – 3400	400 KU	–	–	297858
	600 KU	1	V	337711
3401 – 3600	600 KU	1	V	337711
	600 KU	1	V	337711

Centre lock (CL)

[5]	**CL component**, horizontal

▭	▰	⊚#	⊚	Nº
200	Y	–	–	308267
400	Y	–	–	297858
1190	Y	1	K	862360
1440	Y	1	K	862361
1790	Y	2	K	862362
2190	Y	2	K	862363

Size-specific combinations:

First or second opening sash

↔	▭	▰	⊚#	⊚	Nº
1500 – 1660	1190	1180	1	K	862360
1661 – 1910	1440	1430	1	K	862361
1911 – 2110	1440	1430	1	K	862361
	200	200	–	–	308267
2111 – 2260	1790	1780	2	K	862362
2261 – 2460	1790	1780	2	K	862362
	200	200	–	–	308267
2461 – 2660	2190	2180	2	K	862363
2661 – 2860	200	200	–	–	308267
	2190	2180	2	K	862363
2861 – 3000	400	400	–	–	297858
	2190	2180	2	K	862363

[6]	**CL component 130**, horizontal	🛒 13

▭	▰	⊚#	⊚	Nº
130	Y	1	K	862364

[7]	**CL component**, vertical, on the mullion

▭	▰	⊚#	⊚	Nº
200	Y	–	–	308267
400	Y	–	–	297858
600	Y	1	K	862366

Size-specific combinations:

First opening sash:

↕	▭	⊚#	⊚	Nº
2000 – 2200	200 KU	–	–	308267
	600 KU	1	K	862366
2201 – 2400	400 KU	–	–	297858
	600 KU	1	K	862366
2401 – 2600	600 KU	1	K	862366
	600 KU	1	K	862366
2601 – 2800	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
2801 – 3000	200 KU	–	–	308267
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3001 – 3200	400 KU	–	–	297858
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3201 – 3400	400 KU	–	–	297858
	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366

$\updownarrow$	▭	◉#	◉	№
3401 – 3600	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
	600 KU	1	K	862366

Second opening sash:

$\updownarrow$	▭	◉#	◉	№
2000 – 2200	200 KU	–	–	308267
	600 KU	1	K	862366
2201 – 2400	400 KU	–	–	297858
	600 KU	1	K	862366
2401 – 2600	600 KU	1	K	862366
	600 KU	1	K	862366
2601 – 2800	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
2801 – 3000	200 KU	–	–	308267
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3001 – 3200	400 KU	–	–	297858
	600 KU	1	K	862366
	200 KU	–	–	308267
	600 KU	1	K	862366
3201 – 3400	400 KU	–	–	297858
	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
3401 – 3600	600 KU	1	K	862366
	400 KU	–	–	297858
	600 KU	1	K	862366
	600 KU	1	K	862366

[9] Roller unit   🛒 4

📦	◫	№
41	Left	862367
	Right	862368

> **INFO**
> DIN L: order right components.
> DIN R: order left components.

[90] Stabilisation unit

📦	◫	№
41	Left	891368
	Right	891369

↦		🛒
≤ 2110		2
> 2110		4

> **INFO**
> DIN L: order right components.
> DIN R: order left components.

[10] Control unit, on the mullion side and in the centre → *from page 85*   🛒 2-6
Alternatively (on the mullion side):
Control unit set with Soft function (incl. activator) → *from page 85*   🛒 1-2

▭	◫	№
41	Left	862371
	Right	862372

> **INFO**
> DIN L: order right components.
> DIN R: order left components.

[*] Control unit set with Soft function, on the espagnolette side → *from page 85*   🛒 2
Alternatively:
[10] Control unit

Contents:

[*]	💬	#
[29]	Activator	1
[30]	Control unit with Soft function	1

> **INFO**
> DIN L: order right components.
> DIN R: order left components.

[11] Centre closer, adjustable

📦	◫	№
41	Left	862395
	Right	862396

$\updownarrow$	🛒
≤ 2400	6
2401 – 3400	8
> 3400	10

> **INFO**
> DIN L: order right components.
> DIN R: order left components.

[12] MUL locking cam, adjustable

✳	▭	№
Gasket compression adjustable	25	895955
	26	895966
	27	895970

✳	▭ 32	№
	32	786728
	35.5	858628
	36	895972
	39.5	839047
	42	861550
	44	895973
	45.8	791838
	47.8	788696
	49	895974
	53.5	839045

↕	🛒
≤ 2400	6
2401 – 3400	8
> 3400	10

[15] Striker to prevent incorrect operation 🛒 1

💬	№
Striker to prevent incorrect operation	822789

[16] Handle (200 mm handle length) → CTL_1 🛒 2
Recessed grip (43 mm distance), not sh. → CTL_1 🛒 2

[17] Striker

🔩	№
Screw-on	744579

↕	🛒
≤ 2800	3
2801 – 3400	4
> 3400	5

[18] Buffer, diagram C

📦	№
14	635307

[20] MUL striker

🔩	№
Screw-on	793493

↕	🛒
≤ 2400	6
2401 – 3400	8
> 3400	10

[21] Cover cap for MUL striker, only in combination with MUL striker, screw-on.

🎨	🖌	№
R01.1	Natural silver	819632
R05.3	Medium bronze	819631
R06.2	Jet black	798979

🎨	🖌	№
R07.2	Traffic white	808054

↕	🛒
≤ 2400	6
2401 – 3400	8
> 3400	10

[24] Pin, adjustable, for anti-pushback function 🛒 1

✳	▭	№
Gasket compression adjustable	25 mm	895977
	26 mm	895984
	27 mm	895989
	32 mm	895994
	35.5 mm	858629
	36 mm	895999
	39.5 mm	839049
	42 mm	861551
	44 mm	896002
	49 mm	896005
	53.5 mm	839048

[25] Centre closer, adjustable, for anti-pushback function 🛒 1

📦	⬜⬜	№
41	Left	862395
	Right	862396

[26] Striker for anti-pushback function 🛒 1

💬	№
Striker for anti-pushback function	810279

[27] Cover cap for striker for anti-pushback function 🛒 1

🎨	🖌	№
R01.1	Natural silver	828482
R05.3	Medium bronze	828483
R06.2	Jet black	809717
R07.2	Traffic white	819351

[31] End stop, profile-related 🛒 2
Alternatively:
[37] Rubber buffer → from page 87

💬	🎨	🖌	№
End stop	RAL 7004	Signal grey	2006569
	RAL 9005	Jet black	349600

[32] End stop packer, profile-related

💬	🎨	🖌	№
	RAL 7004	Signal grey	2007421
	RAL 9005	Jet black	477263

[33] Stopper, cannot be used in conjunction with a control unit with SoftOpen / SoftClose together with SoftStop on the mullion side / SoftStop on the espagnolette side.

🛒 2

Alternatively:

[37] Rubber buffer → *from page 87*

💬	Nº
Stopper	800196

[34] Packer; profile-related quantity [12]

💬	Nº
Packer	800197

[*] Operating sequence control set, profile-related

🛒 1

📦	Nº
14	861110
31.3	833201
31.7	833202
39.5	858557

Contents:

[*]	💬	#
[42]	Adapter	1
[43]	Anti-lifting device	1
[44]	Stop, first opening sash	1
[45]	Countersunk screw	1

Optional

[33] Stopper, cannot be used in conjunction with a control unit with SoftOpen and SoftStop on the espagnolette side.

🛒 1

💬	Nº
Stopper	800196

[34] Packer; profile-related quantity [13]

💬	Nº
Packer	800197

[12]   Only use the number of packers that is specified in the profile assessment.

[13]   Only use the number of packers that is specified in the profile assessment.

5 Espagnolettes
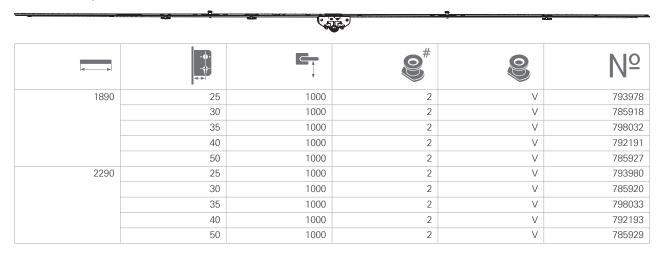
5.1 T&T espagnolettes

5.1.1 Backset 25, 30, 35, 40, 50 mm
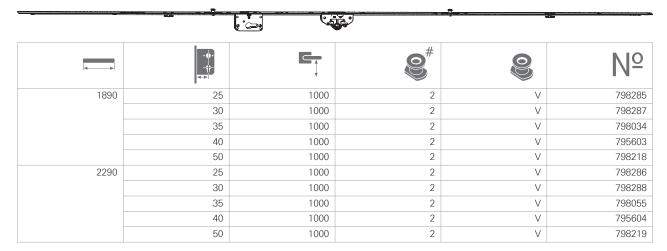
Size-specific combinations:

	↕	↔
2000 – 2400		1890
2401 – 3600		2290

Basic security

↔	⊟	⊩	◉ #	◉	№
1890	25	1000	2	V	793978
	30	1000	2	V	785918
	35	1000	2	V	798032
	40	1000	2	V	792191
	50	1000	2	V	785927
2290	25	1000	2	V	793980
	30	1000	2	V	785920
	35	1000	2	V	798033
	40	1000	2	V	792193
	50	1000	2	V	785929

Lockable

↔	⊟	⊩	◉ #	◉	№
1890	25	1000	2	V	798285
	30	1000	2	V	798287
	35	1000	2	V	798034
	40	1000	2	V	795603
	50	1000	2	V	798218
2290	25	1000	2	V	798286
	30	1000	2	V	798288
	35	1000	2	V	798055
	40	1000	2	V	795604
	50	1000	2	V	798219

Second opening sash

↔	🔲	🔓	⊚ #	⊚	№̲
1890	25	1000	–	–	809695
	30	1000	–	–	809688
	35	1000	–	–	809669
	40	1000	–	–	809649
	50	1000	–	–	809608
2290	25	1000	–	–	809697
	30	1000	–	–	809690
	35	1000	–	–	809653
	40	1000	–	–	809651
	50	1000	–	–	809610

6 Jigs / tools
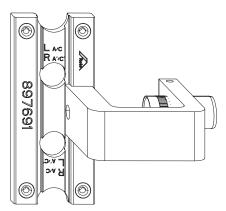
6.1 Drilling jigs

6.1.1 Roller unit / control unit

		№
Timber	41	894737
PVC	41	894736

6.1.2 Centre closer
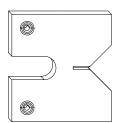
		№
Timber	41	897691
PVC	41	897690
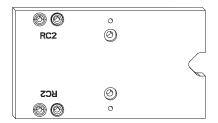
6.1.3   Strikers

MUL striker
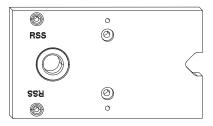
💬	ℹ️	🔲	№️
Aluplast smart-slide	Fixed mullion MUL 140041	–	811973
	Fixed mullion MUL 140045	–	807972
Gealan Smoovio	Fixed mullion MUL 5862	–	809328
Rehau	Synego Slide	–	836201
Viking	Timber	–	797967

SEC MUL striker

💬	ℹ️	№️
Aluplast smart-slide	Fixed mullion MUL 140045	834696
Gealan Smoovio	Fixed mullion MUL 5862	834689

Striker for anti-pushback function
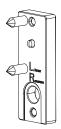
💬	ℹ️	№️
Aluplast smart-slide	Fixed mullion MUL 140045	834697
Gealan Smoovio	Fixed mullion MUL 5862	834695
Rehau	Synego Slide	838582
Salamander	evolutionDrive Plus+	897744

Other jigs are available upon request.

6.1.4   Marker
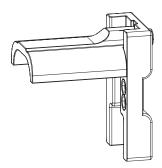
					Nº
Marker for striker T / PVC, screw-on		–		–	772626
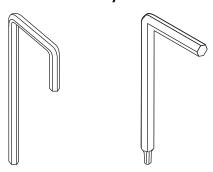
6.1.5   Tilt protection device

		Nº
Top		2000345

6.2   Tools

6.2.1   Hex key

		Nº
4 mm hex key		208609
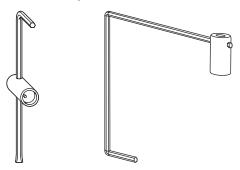
		№
	Hex key: 2.5 / 4.0 mm	230764

For height adjustment on the roller unit on the espagnolette side
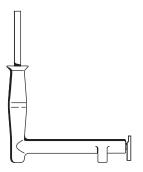
			№
		315	895796

6.2.2 Adjustment tools

	№
Adjustment tool: V locking cam	258191
	381574

6.2.3 Extractor handle

	№
Extractor handle for stay-bearing pin	899630
Replacement blade	230765

6.2.4 Tensioning tool

For control unit with soft function

	💬		ℹ️	№⁰
Tensioning tool		For control unit with soft function		837763

6.3 Punches

6.3.1 Pneumatic punch – PS 100

	💬		ℹ️	🔲🔲	№⁰
Pneumatic punch – PS 100		For offset cuts		Left	553992
				Right	553993

Accessories

	💬	🔲🔲	№⁰
Foot control for pneumatic punch		–	554096
Hand control for pneumatic punch		–	554097

	💬	🔲🔲	№⁰
Ruler		Left	230758
		Right	230759
Calliper with centre fixing		Left	324020
		Right	324021
VT calliper		Left	632972
		Right	632973

6.3.2   Hydropneumatic punch – DUO

	💬	ℹ️	🞀🞂	№
Hydropneumatic punch – DUO		For offset cuts	Left	262155
			Right	262156

Accessories

	💬	🞀🞂	№
Foot control for hydropneumatic punch		–	230760
Hand control for hydropneumatic punch		–	230761
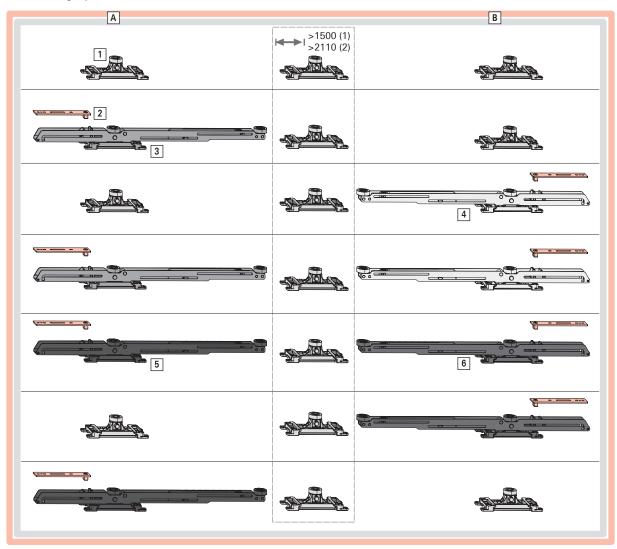
	💬	🞀🞂	№
Ruler		Left	230758
		Right	230759
Calliper with centre fixing		Left	324020
		Right	324021
VT calliper		Left	632972
		Right	632973

7 Accessories

7.1 Control unit set with Soft function

Positioning options for the control unit

[A] On the espagnolette side
[B] On the mullion side
[1] Control unit without Soft function
[2] Activator for control unit with Soft function

[3] Control unit with SoftClose
[4] Control unit with SoftOpen
[5] Control unit with SoftStop on the espagnolette side
[6] Control unit with SoftStop on the mullion side

Control unit	S.kg	Min. SRW	Alignment	Position	Function
Without Soft function	≤ 400 kg	1500	–	On the espagnolette side, on the mullion side	–
		1500 (1 pc.) / > 2110 (2 pcs)	–	Centred	Supports the sash
With SoftClose	≤ 200 kg	1500	Additional control roller faces towards the centre of the sash	On the espagnolette side	Damps the movement of the sash in the locking direction and draws it slowly closed.
With SoftOpen	≤ 200 kg	1500	Additional control roller faces towards the centre of the sash	On the mullion side	Damps the movement of the sash in the opening direction and draws it slowly into the final position.

Control unit	S.kg	Min. SRW	Alignment	Position	Function
With SoftStop	> 200 kg	1500	Additional control roller faces towards the centre of the sash	On the espagnolette side [14]	Damps the movement of the sash in the locking direction.
			Additional control roller faces towards the centre of the sash	On the mullion side	Damps the movement of the sash in the opening direction.

Control unit set with SoftClose (incl. activator)

Installation position: at the top of the espagnolette side

S.kg ≤ 200 kg

				№
Espagnolette side	41	200 kg	Left	895788
			Right	895789

Control unit set with SoftOpen (incl. activator)

Installation: at the top of the mullion side

S.kg ≤ 200 kg

				№
Mullion side	41	200 kg	Left	895792
			Right	895793

Control unit set with SoftStop (incl. activator)

> **i** **INFO**
> The use of control units with SoftStop is only possible up to 300 kg for diagram C.
>
> Control units with SoftStop are only possible in conjunction with an end stop.
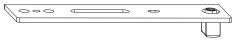
Installation: at the top of the mullion side / at the top of the espagnolette side

S.kg > 200 kg

				№
Espagnolette side	41	400 kg	Left	894398
	41	400 kg	Right	894399
Mullion side	41	400 kg	Left	894402
	41	400 kg	Right	894403

7.2   Activator spare part for control unit with soft function

The activator is included in the control unit set.

	№
Activator for soft function	837318

[14]   With diagram C only up to 300 kg.
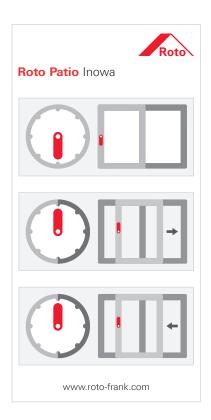
7.3 Rubber buffer

Diagram C: cannot be used in conjunction with SoftOpen or SoftStop on the mullion side.

		№
	16.5	780647
	17.5	798249

7.4 Label

Roto Patio Inowa

www.roto-frank.com

		№
Label indicating the operating sequence, diagram A		811486

Roto Patio Inowa
Schema C

www.roto-frank.com
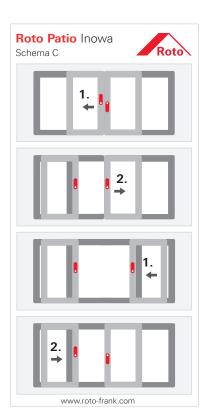
Fig. 7.1: Figure for installation DIN right

			№
Label indicating the operating sequence, diagram C		Left	823251
		Right	823250

8 Brief instructions

8.1 Diagram A, A', K, K'

Summary of IMO 559

	Installation sequence	Note	Page reference	Timber	PVC
Sash	Crop the hardware components.		→ *from page 98*	■	■
	Install the corner drives.	Align the cam vertically.	→ *from page 100*	■	■
	Install the vertical centre lock on the espagnolette side.	Size-dependent	→ *from page 100*	■	■
	Install the espagnolette.	Insert with the arrow pointing up.	→ *from page 101*	■	■
	Install the centre locks.	CL, vertical on the mullion side (size-dependent)	→ *from page 100*	■	■
		CL 130, horizontal at the top, bottom and on the mullion side	→ *from page 101*		
		CL, horizontal at the top and bottom (size-dependent)			
	Install the handle.		→ *from page 102*	■	■
	Install the roller unit.	Timber: must not be pressed into the timber. Adapt the insertion torque if necessary.	→ *from page 103*	■	■
	Install the stabilisation unit.	For SRW > 2110 mm, a second stabilisation unit is required.	→ *from page 105*	■	■
	Install the control unit.	Alternatively: install the control unit with Soft function → *from page 85*.	→ *from page 107*	■	■
		For SRW > 2110 mm, a fourth control unit is required.			
		Timber: must not be pressed into the timber. Adapt the insertion torque if necessary.			
	Install the centre closer with MUL locking cam.	Timber: must not be pressed into the timber. Adapt the insertion torque if necessary.	→ *from page 109*	■	■
Frame	Install strikers.	Note the point of entry.	→ *from page 120*	■	■
	Install the striker to prevent incorrect operation.		→ *from page 129*	■	■
	Install the buffer.		→ *from page 131*	■	■
	Install the roller track.	Timber: length: FIW - 2 mm	→ *from page 134*	■	■
	Install the guide track.	Timber: length: (FIW - 2 mm)/2, screw down in the access area.	→ *from page 136*	■	■
Joining the sash and frame	Install the guide track.	Timber: length: (FIW - 2 mm)/2, screw down in the fixed glazing area.	→ *from page 136*	■	■
	Place the sash on the roller track.	Move the handle to the sliding position.	→ *from page 138*	■	■
	Install the MUL strikers.		→ *from page 144*	■	■
	Install the end stop with packer.			■	■
	Install the stopper.		→ *from page 152*	■	■
Final acceptance	Install the element.	Place supports under the threshold every 300 mm across its entire area.	→ *from page 153*	■	■
		Max. permitted unevenness of the entire threshold: 3 mm.			
		We recommended that you place packers under the threshold across its entire area.			
	Adjust the hardware.		→ *from page 158*	■	■
	Lubricate the hardware.		→ *from page 163*	■	■
	Check the handle operating force.	Operating force ≤ 10 Nm		■	■

9 Installation

9.1 Processing instructions

Maximum sash sizes and weights

The specifications, application diagrams and component assignments which can be found in the hardware manufacturer's product-specific documents provide information on the maximum permitted sash sizes and weights. The component with the lowest permitted load bearing capacity determines the maximum permitted sash weight.

- Before using electronic data records and implementing them in window fabrication programs in particular, check that they match the specifications, application diagrams and component assignments.
- Never exceed the maximum permitted sash sizes and weights. If any points are unclear, contact the hardware manufacturer.

Specifications from profile manufacturers

The element manufacturer must comply with all specified system dimensions (e.g. gasket gap dimensions or locking distances).

They must continue to ensure and check this on a regular basis, especially when new hardware components are used for the first time, during production and on a continuous basis, up to and including element installation.

> **i** **INFO**
> The hardware components are always designed in such a way that any system dimensions affected by the hardware can be adjusted. The hardware manufacturer shall not be liable for any additional expenses incurred if a deviation from these dimensions is not discovered until after the element has been installed.

Combining hardware

Burglar inhibiting elements need hardware which meets special requirements.

Elements for wet rooms and those for use in environments with aggressive, corrosive constituents in the air require hardware that meets special requirements.

The resistance of elements to wind loads when they are closed and locked depends on the individual design of the element. The hardware system is capable of handling wind loads specified by legislation and standards (for example in accordance with EN 12210 – especially test pressure P3).

Coordinate suitable hardware combinations and installation procedures in elements with the hardware manufacturer and profile manufacturer for the areas listed above, and conclude a separate agreement for them.

> **i** **INFO**
> The hardware manufacturer's specifications on the combination of hardware (e.g. the use of additional scissor stays, the design of hardware for burglar-inhibiting elements, etc.) are binding.

Installation surfaces

The frame and sash grooves must be free from construction materials (such as plaster, gypsum). The sash groove must be free from welding residue to ensure an optimum supporting surface for the hardware components.

Specifications relating to installation and care

> ⚠ **ATTENTION**
> **Sealing compounds that contain silicone may cause property damage.**
> Sealing compounds that contain silicone may considerably reduce the sealing effect near the threshold after three to five years.
> ▶ Only use silicone-free sealing compounds to seal the threshold.

Remove excess sealing compound after installation.

ATTENTION
Using incorrect cleaning agents and sealing compounds may cause property damage.
Cleaning agents and sealing compounds may damage the surfaces of components and gaskets.
- ▶ Do not use aggressive or flammable liquids, acidic cleaners or abrasive cleaners.
- ▶ Only use mild, pH-neutral cleaning agents that have been diluted.
- ▶ Apply a thin protective film to the components, for example using a cloth soaked in oil.
- ▶ Avoid aggressive vapours (e.g. produced by formic acid, acetic acid, ammonia, amine compounds, ammonia compounds, aldehyde, carbolic acid, chlorine, tannic acid) around the element.
- ▶ Do not use any acetic acid-crosslinking or acid-crosslinking sealing compounds or those with the aforementioned constituents as both direct contact with the sealing compound and its fumes can corrode the surface of the components.

9.2 Screw connections

DANGER
Incorrectly installed or screwed-in hardware components present a risk of death.
Incorrectly installed and screwed-in hardware components may lead to hazardous situations and cause serious or fatal accidents.
- ▶ During installation and screwdriving work, observe the specifications provided by the profile manufacturer; contact the profile manufacturer if necessary.
- ▶ Use the recommended screws.
- ▶ Select the length of the screws according to the profiles used.
- ▶ Ensure that the hardware components are adequately secured; contact the screw manufacturer if necessary.

ATTENTION
Using incorrect screw material may cause property damage.
Using the wrong screws may damage the components.
- ▶ Only use galvanised zinc-plated and passivated steel screws.
- ▶ Use screws with additional sealing in more challenging climatic conditions.
- ▶ Use stainless-steel screws on stainless-steel components only.
- ▶ For aluminium components, use screws made of steel (coated with zinc-nickel or zinc flakes) or stainless steel.
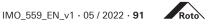
ATTENTION
Improper screw fixings may cause property damage.
Improper screw fixings may damage the components and the element as a whole, and stop them from working properly.
- ▶ Unless stated otherwise, turn screws in straight.
- ▶ Tighten screw heads until they are flush with the surface.
- ▶ Do not over-tighten screws. Note the torque. Choose a torque that will not deform the hardware and profile. Define profile-specific torques on the basis of the demo assembly.
- ▶ Use the recommended screws.
- ▶ Select the length of the screws according to the profiles used.

9.2.1   Overview

⚠ **WARNING**

Incorrect screw connections may pose a risk of death!

Hardware components can be pulled out of the sash if they are not screwed through a profile wall that is at least 6 mm thick in total or screwed down using rivet nuts.
▸ Select the length of the screws so that they will hold in the aluminium profile. Alternatively, insert additional aluminium profiles.

⚠ **WARNING**

Incorrect screw connections may pose a risk of death!

Short screws will not reach the steel reinforcement and will therefore not hold.
Hardware components can be pulled out of the sash if they are not screwed into the steel reinforcement.
▸ Select the length of the screws so that they will hold in the steel reinforcement.
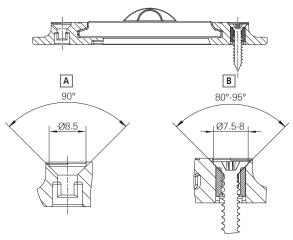
Timber

Components	Quantity	Size	Diameter to be drilled	Drive
Roller unit	6	ST4.0 x ...	3.0	Not specified
Control unit	4	ST4.0 x ...	3.0	Not specified
Centre closer	4	ST4.0 x ...	3.0	Not specified
Stabilisation unit	4	ST4.0 x ...	3.0	Not specified
MUL striker / striker for anti-pushback function	2	ST4.0 x ...	3.0	Not specified
Striker / stop	2	ST4.0 x ...	3.0	Not specified
Activator / stopper	3	ST4.0 x ...	3.0	Not specified
Tilt protection device	2	ST4.0 x ...	3.0	Not specified
Roto Line handle	2	M5 x ...	10.0 / 12.0	Cross-head

PVC
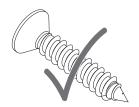
Components	Quantity	Size	Diameter to be drilled	Drive
Roller unit	6	ST3.9 - 4.1 x ...	3.5	Not specified
Control unit	4	ST3.9 - 4.1 x ...	3.5	Not specified
Centre closer	4	ST3.9 - 4.1 x ...	3.5	Not specified
Stabilisation unit	4	ST3.9 - 4.1 x ...	3.5	Not specified
MUL striker / striker for anti-pushback function	2	ST3.9 - 4.1 x ...	3.5	Not specified
Striker / stop	2	ST3.9 - 4.1 x ...	3.5	Not specified
SEC striker	2	ST3.9 - 4.1 x ...	3.5	Not specified
Activator / stopper	3	ST3.9 - 4.1 x ...	3.5	Not specified
Tilt protection device	2	ST3.9 - 4.1 x ...	3.5	
Roto Line handle	2	M5 x ...	10.0 / 12.0	Cross-head

Specifications for selecting screws

[A] 90°   Ø8.5
[B] 80°-95°   Ø7.5-8

[A] Specifications relating to the countersink
[B] Specifications relating to the screw head for selecting screws
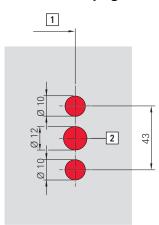
> **INFO**
> Routing grooves or V-shaped grooves may damage the fixing when screwing it in and prevent it from releasing.

9.3 Drilling and routing dimensions

9.3.1 VT espagnolette
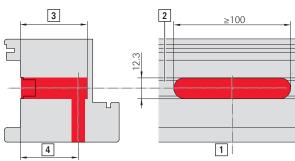
Drill holes for the handle's sprocket and lugs

[1] Backset

[2] Handle height

Drill hole Ø 10: drilling depth = overlap height + 16 mm for countersunk screws (ISO 7046-1 M5 x …)
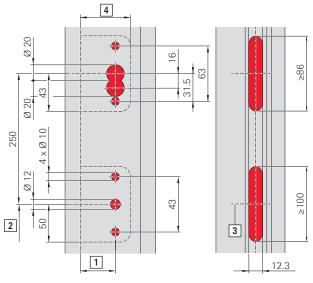
Drill hole Ø 12: drilling depth = overlap height + 16 mm for countersunk screws (ISO 7046-1 M5 x …)

Gearbox routing

[1] Centre of gearbox

[2] Hardware groove

[3] Gearbox routing depth:

BS + 17 (e.g. 30 +17 = 47 mm)

[4] Backset (BS)

Installation
Drilling and routing dimensions
VT espagnolette, lockable

9.3.2 VT espagnolette, lockable

Drill holes for Roto Line handle and profile cylinder for lockable espagnolettes

[1] Backset

[2] Handle height

[3] Centre of gearbox

[4] Min. routing depth

Drill holes: at the bottom for the square spindle and handle mount, at the top for the profile cylinder and profile cylinder escutcheon mount

Overlap height

Drill hole Ø 10: drilling depth = overlap height + 16 mm for countersunk screws (ISO 7046-1 M5 x …)

Drill hole Ø 12: drilling depth = overlap height + 16 mm for countersunk screws (ISO 7046-1 M5 x …)

Routing for gearbox and lock casing
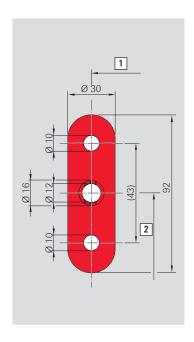
Routing: at the bottom for the gearbox, at the top for the lock casing

Gearbox / lock casing routing depth:

BS 25 = 42 mm

BS 30 = 47 mm

9.3.3 External recessed grip

Recessed grip routing
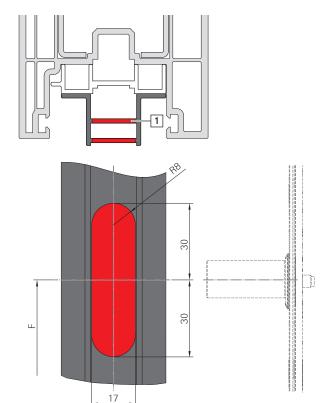
Routing depth = 10 mm

[1] Backset

[2] Handle height

Installation
Drilling and routing dimensions
Operating sequence control cam

9.3.4   Operating sequence control cam
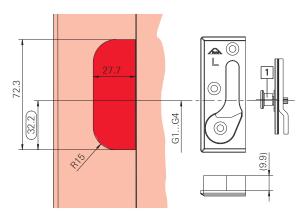
Routing for cam

Routing depth = through adapter profile [1]

F = Operating sequence control cam in open sliding position

9.3.5   Striker H, can be routed in

Routing for striker H, can be routed in
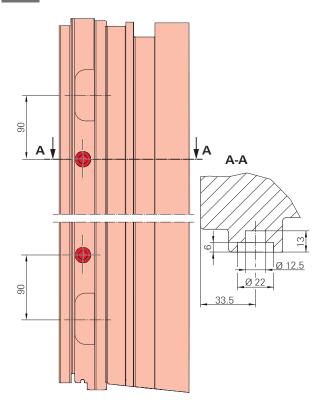
Routing depth = 10 mm

[1] Cam (VT espagnolette)

9.3.6   Rubber buffer
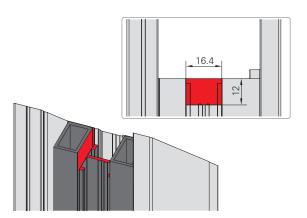
Create a stepped hole with a spade drill.

1. Drill to a depth of 6 mm with Ø 22 mm.

2. Drill to a depth of 13 mm with Ø 12.5 mm.

9.3.7   Tilt protection device

1. Notch the adapter profile (if present) on the sash in the area of the corner drive.
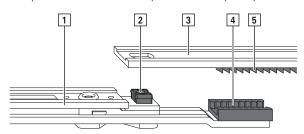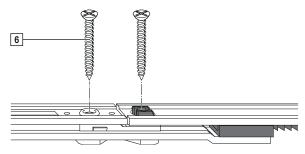
9.4   Sash

9.4.1   Force-fit connection

Coupleable hardware components always require a force-fit connection.

Assignment	Description
[1]	Component A
[2]	Screw guide with clamp
[3]	Component B
[4]	Component A toothed segment
[5]	Component B toothed segment
[6]	Screw

Force-fit connections are formed by screwing down components A and B so that forces and movements are transferred without loss.

INFO
All coupleable components are delivered attached in the centre.

9.4.2 Cropping the hardware components

 ATTENTION

Incorrect cropping methods may result in property damage.
Do not insert the hardware components into the sash before they have been cropped. The screw guide engages and can be destroyed when it is removed.
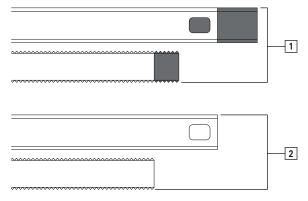
▶ Only lay out the hardware components and do not insert them into the sash before they have been cropped.

The following hardware components are cropped:

- Espagnolette
- Centre locks
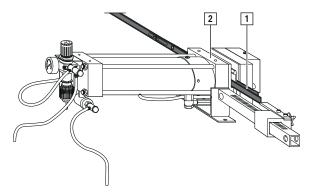
Cropping with a pneumatic punch (hole punching)

Hardware components are delivered 10 mm longer than the nominal dimension.

Assignment	Description
[1]	Hardware delivery state
[2]	Hardware, cropped

1. Place the hardware component in the required position.

2. Mark the length on the hardware component.

3. Insert the hardware component [1] into the pneumatic punch [2].

4. Align the hardware component.

5. Crop the hardware component.
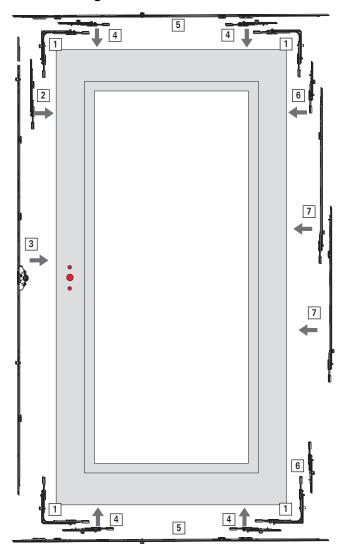
9.4.3 Installation sequence

9.4.3.1 Diagram A

[1] Corner drives

[2] Espagnolette extension (size-dependent)

[3] Espagnolette

[4] Centre locks CL 130, horizontal at the top and bottom

[5] Centre locks, horizontal at the top and bottom (size-dependent)

[6] Centre locks CL 130, vertical on the mullion side

[7] Centre locks, vertical on the mullion side (size-dependent)

---

i INFO

After installation, break the centre fixing on the espagnolette by turning the handle 180°.
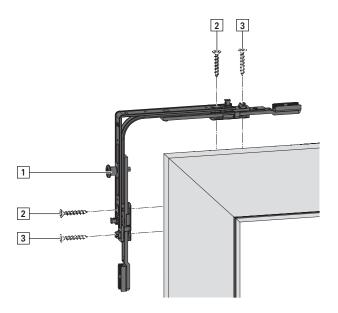
Turn the handle to the open sliding position.

9.4.4 Corner drive

Installing the corner drive

1. Insert the corner drive with vertical cam position [1] and secure with two screws [2].

2. After all of the connector components have been installed, screw down the corner drives with a further two screws [3]. → *9.4.1 "Force-fit connection" from page 97*

---

i **INFO**
Diagram C / C' – second opening sash: insert the corner drives (with E cam) horizontally on the locking side with cam position and secure with screws.

9.4.5 Centre locks

9.4.5.1 Centre lock, vertical

Installing the vertical centre lock

1. Insert the centre lock on the mullion side and create a force-fit connection → *9.4.1 "Force-fit connection" from page 97*.

9.4.5.2 Centre lock, horizontal

Installing the horizontal centre lock

1. Insert the centre lock at the bottom and top on the locking side and create a force-fit connection → *9.4.1 "Force-fit connection" from page 97*.
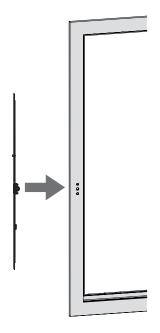
9.4.6 VT espagnolette

Installing the VT espagnolette

1. Place the espagnolette in the required position, mark the length on one side, remove and crop → *9.4.2 "Cropping the hardware components" from page 98*.

2. Insert the espagnolette.
   Create a force-fit connection → *9.4.1 "Force-fit connection" from page 97*.
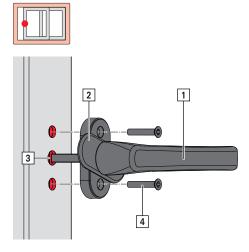
9.4.7 Handle and recessed grip

Installing the handle and recessed grip

1. Move the handle [1] to the 90° position → *12.1.1 "Roto Patio Inowa" from page 160*.

2. Turn the escutcheon cover [2] in order to expose the screw holes.

3. Insert the handle into the sash [3].

4. Insert the recessed grip into the sash on the opposite side.

5. Screw the recessed grip through the handle with two screws [4].

6. Turn the escutcheon cover in order to expose the screw holes.

9.4.8 Roller unit

INFO

The roller unit must not be pushed into the timber. Adapt the torque if necessary.

For the roller unit, ensure that the adjusting screw [1] is facing towards the handle when installed.

Positioning the drilling jig
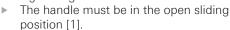
ATTENTION
Improper drilling work may cause property damage.

An incorrect handle position and incorrect alignment of the drilling jig damage the sash during drilling.

▶ The handle must be in the open sliding position [1].

Attach the drilling jig to the cam [2].

For profiles with just one mounting surface, align the drilling jig so that it is parallel with this surface when drilling.

Refer to the installation drawing for the position ➔ *from page 154*.
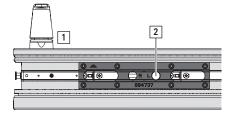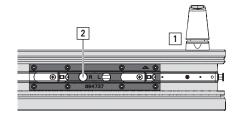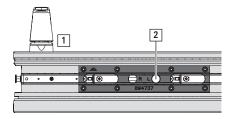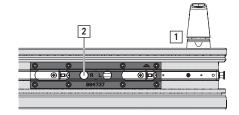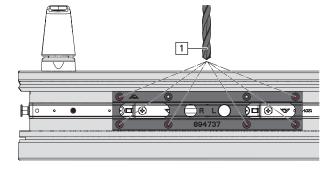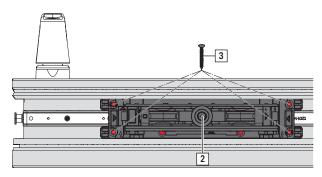
Installing roller units

1. Drill six holes.
   Drill [1]: timber Ø 3.0; PVC Ø 3.5
   Shown: diagram A, DIN L
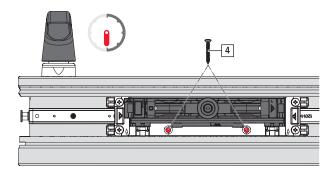
2. Insert the roller unit [2] and fasten with outer screws [3].

3. Move the handle to the closed position.
   Fasten the roller unit with two inner screws [4].

9.4.9   Stabilisation unit

⚠️ **ATTENTION**
Improper drilling work may cause property damage.
An incorrect handle position and incorrect alignment of the drilling jig damage the sash during drilling.
▶ The handle must be in the open sliding position [1].
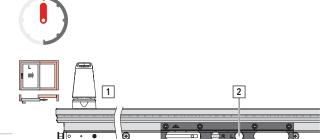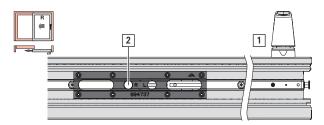
Attach the drilling jig to the control cam [2].
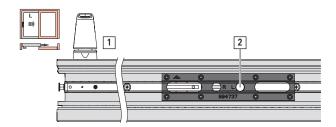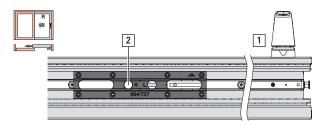
Refer to the installation drawing for the position ➔ *from page 154*.
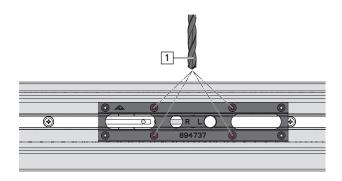
Installing the stabilisation unit
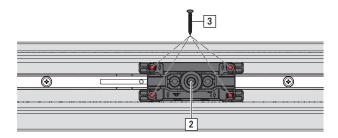
1. Drill four holes.
   Drill [1]: Ø 3.0
   Shown: diagram A, DIN L

2. Insert the stabilisation unit [2] and fasten with screws [3].

9.4.10   Control unit

INFO

The control unit must not be pushed into the timber. Adapt the torque if necessary.

For control units with Soft function, ensure that the additional control roller [1] is facing towards the centre of the sash when installed .

Positioning the drilling jig

ATTENTION
Improper drilling work may cause property damage.

An incorrect handle position and incorrect alignment of the drilling jig damage the sash during drilling.

▸   The handle must be in the open sliding position [1].

Attach the drilling jig to the cam [2].

For profiles with just one mounting surface, align the drilling jig so that it is parallel with this surface when drilling.

Refer to the installation drawing for the position ➔ *from page 154*.
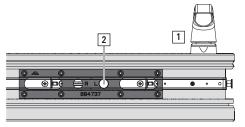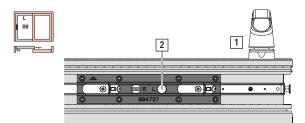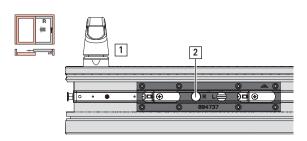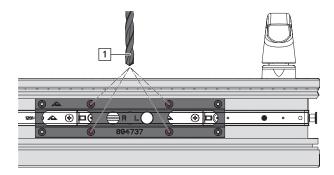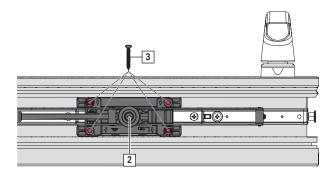
Installing the control unit

1. Drill four holes.
   Drill [1]: timber Ø 3.0; PVC Ø 3.5
   Shown: diagram A, DIN L

2. Insert the control unit [2] and fasten with
   screws [3].

9.4.11   Centre closer

> **i** INFO
> The centre closer must not be pushed into the timber. Adapt the torque if necessary.

Positioning the drilling jig
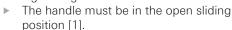
> **⚠ ATTENTION**
> **Improper drilling work may cause property damage.**
> An incorrect handle position and incorrect alignment of the drilling jig damage the sash during drilling.
> ▶ The handle must be in the open sliding position [1].
> ▶ **Inward running sashes**: position the drilling jig so that the side with the Ø 14.0 drill hole [2] is **facing away** from the handle.
> ▶ **Outward running sashes**: position the drilling jig so that the side with the Ø 14.0 drill hole [2] is **facing** the handle.

Attach the drilling jig to the control cam [3].

Refer to the installation drawing for the position → *from page 154*.
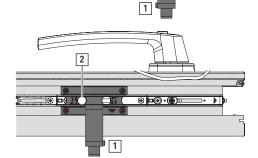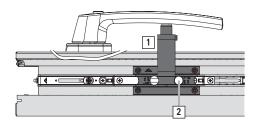
> **i** INFO
> For both RC 2 and diagram C, drill the holes for the centre closers for anti-pushback function .
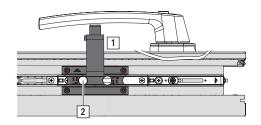
Installing centre closers
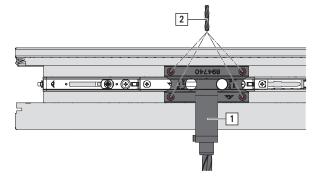
1. Drill one hole.
   Drill [1]: Ø 14.0
   Drill four holes.
   Drill [2]: timber Ø 3.0; PVC Ø 3.5
   Shown: diagram A, DIN L
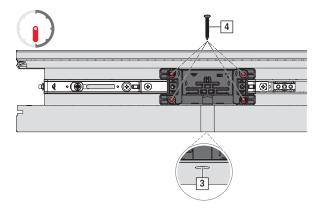
2. Move the handle to the closed position.
   Insert the centre closer so that the MUL locking cam mount is facing the drill hole [3] on the outer side of the sash.
   Fasten with four screws [4].
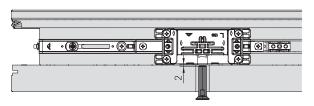
3. Fasten the MUL locking cam at a distance of 2 mm from the centre closer.
   Tool: size 8 open-end spanner / size 4 hex key

9.4.12 Centre closer for anti-pushback function

INFO

Diagram A / C: install right components for DIN L; install left components for DIN R.

Diagram C': install left components for DIN L; install right components for DIN R.

The centre closer must not be pushed into the timber. Adapt the torque if necessary.

Positioning the drilling jig

ATTENTION

Improper drilling work may cause property damage.

An incorrect handle position and incorrect alignment of the drilling jig damage the sash during drilling.
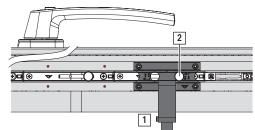
▸ The handle must be in the open sliding position.

▸ **Inward running sashes**: position the drilling jig so that the side with the Ø 14.0 drill hole [1] is **facing away** from the handle.

▸ **Outward running sashes**: position the drilling jig so that the side with the Ø 14.0 drill hole [1] is **facing** the handle.

Attach the drilling jig to the control cam [2].
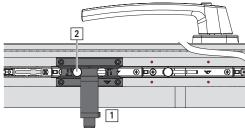
Refer to the installation drawing RC or diagram C for the position → *from page 154*.
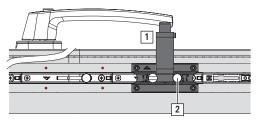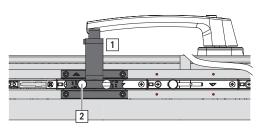
Installing the centre closer for anti-pushback function
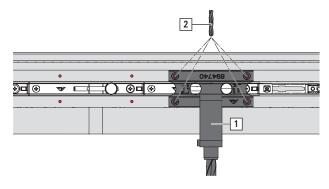
1. Drill one hole.
   Drill [1]: Ø 14.0
   Drill one hole.
   Drill [2]: timber Ø 3.0; PVC Ø 3.5
   Shown: diagram A, DIN L
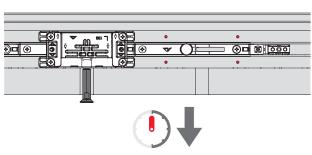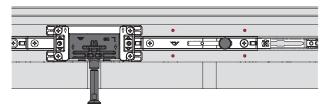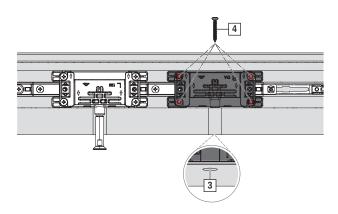
2. Install the centre closer → *from page 109*.
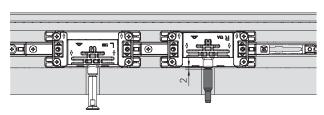
3. Insert the centre closer so that the MUL locking cam mount is facing the drill hole [3] on the outer side of the sash.
   Fasten with four screws [4].

4. Fasten the pin for anti-pushback function [5] at a distance of 2 mm from the centre closer.
   Tool: size 3 hex key

9.4.13   Rubber buffer

> **INFO**
> Timber: install the rubber buffer in the frame → *9.5.8 "Rubber buffer" from page 137*.

Installing rubber buffers
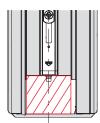
1. Install the profile-related cover on the mullion side. Ensure that the guide track and roller track are running smoothly.

   > **INFO**
   > Place pressure-proof packers underneath the cover at the top and bottom in the hatched area for installing the rubber buffers. Ensure that the cam on the corner drive is running smoothly.
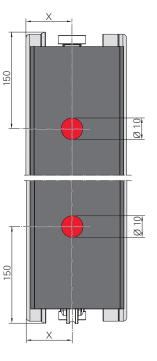
2. Drill two holes Ø 10 mm for rubber buffers at the top and bottom of the cover.
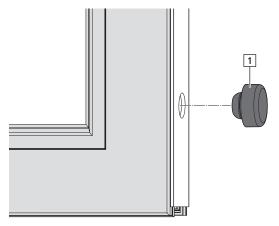
   > **INFO**
   > The dimension X for the drill hole is profile-related.
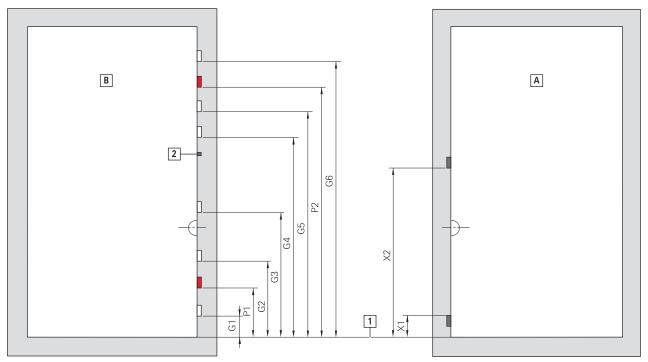
3. Insert the rubber buffer [1].

9.4.14 Diagram C / C' – faceplate component positions

PVC

[1] Sash rebate edge; [A] First opening sash; [B] Second opening sash

☐ Striker (G1 = striker to prevent incorrect operation)

▮ Buffer

▮ Operating sequence control set: anti-lifting device (X1), stop (X2), bolt (2)

Anti-lifting device and stop, first opening sash, on the espagnolette side
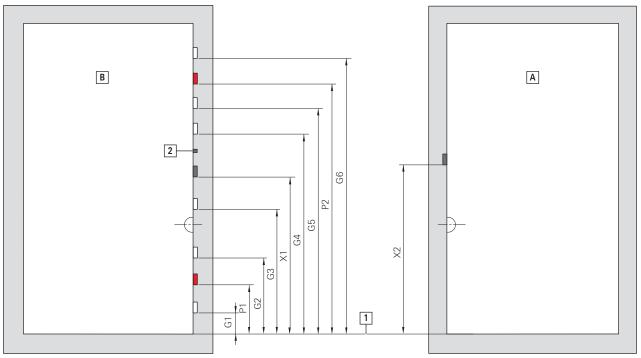
SRH / mm	X1	X2
2000 - 2200	89	1552
2201 - 2400	89	1552
2401 - 2600	89	1596
2601 - 2800	89	1596
2801 - 3000	89	1596
3001 - 3200	89	1596
3201 - 3400	89	1596
3401 - 3600	89	1596

Striker and buffer, second opening sash, on the espagnolette side

SRH / mm	G1	G2	G3	G4	G5	G6	P1	P2
2000 - 2200	51	686	1356	SRH-48	–	–	150	SRH-160
2201 - 2400	51	686	1356	SRH-48	–	–	150	SRH-160
2401 - 2600	51	686	1756	SRH-48	–	–	150	SRH-160
2601 - 2800	51	686	1756	SRH-48	–	–	150	SRH-160
2801 - 3000	51	686	1756	SRH-648	SRH-48	–	150	SRH-160
3001 - 3200	51	686	1756	SRH-848	SRH-48	–	150	SRH-160
3201 - 3400	51	686	1756	SRH-1048	SRH-48	–	150	SRH-160
3401 - 3600	51	686	1756	SRH-1248	SRH-648	SRH-48	150	SRH-160

Timber

[1] Sash rebate edge; [A] First opening sash; [B] Second opening sash

▭ Striker

▬ Buffer

▬ Operating sequence control set: anti-lifting device (X1), stop (X2), bolt (2)

Stop, first opening sash, on the espagnolette side

SRH / mm	X2
2000 - 2200	1552
2201 - 2400	1552
2401 - 2600	1596
2601 - 2800	1596
2801 - 3000	1596
3001 - 3200	1596
3201 - 3400	1596
3401 - 3600	1596

Striker, buffer and anti-lifting device, second opening sash, on the espagnolette side
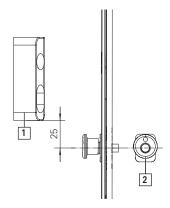
SRH / mm	G1	G2	G3	G4	G5	G6	P1	P2	X1
2000 - 2200	51	686	1356	SRH-48	–	–	150	SRH-160	1526
2201 - 2400	51	686	1356	SRH-48	–	–	150	SRH-160	1526
2401 - 2600	51	686	1756	SRH-48	–	–	150	SRH-160	1570
2601 - 2800	51	686	1756	SRH-48	–	–	150	SRH-160	1570
2801 - 3000	51	686	1756	SRH-648	SRH-48	–	150	SRH-160	1570
3001 - 3200	51	686	1756	SRH-848	SRH-48	–	150	SRH-160	1570
3201 - 3400	51	686	1756	SRH-1048	SRH-48	–	150	SRH-160	1570
3401 - 3600	51	686	1756	SRH-1248	SRH-648	SRH-48	150	SRH-160	1570

9.4.15   Striker, diagram C

9.4.15.1   Drilling the holes for striker, diagram C

Dimensional drawing in open sliding position

[1] Striker, diagram C
[2] Locking cam
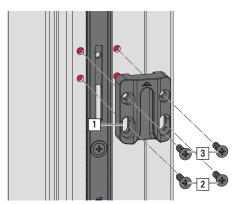
9.4.15.2   Installing the diagram C striker

⇨ Note the drilling specifications → *9.3.4 "Operating sequence control cam" from page 95*.

1. Fasten the diagram C striker [1] with two screws [2] in the slots.
    Check the position and fasten with an additional two screws [3].
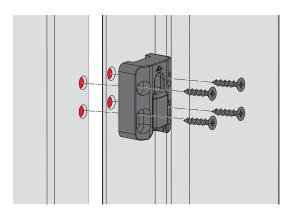
9.4.16   Installing the buffer

Timber

1. Fasten each buffer with four screws.

PVC
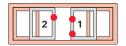
9.4.17 Operating sequence control

Alternatively: position of the components according to the installation diagram C – faceplate components→ *from page 114*.
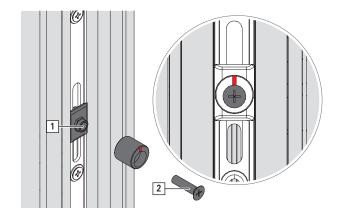
PVC

Installing the operating sequence control

1. Move the handle of the second opening sash to the closed sliding position.

2. Attach the bolt at the position provided [1] on the espagnolette of the second opening sash. The marking (red) points up.

   Fasten with one screw [2].

3. Push the first opening sash shut until the lower edge [A] of the bolt can be transferred to the first opening sash.

   Open the first opening sash again and pre-position the stop [3] on the first opening sash with two screws [4] in slots, at an offset of 2 mm from the lower edge of the bolt.
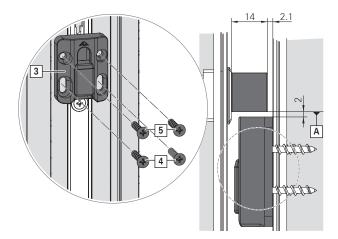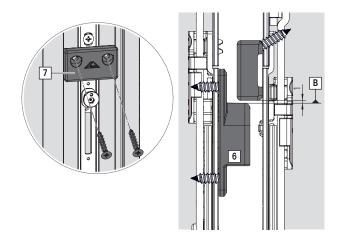
   Check the position and fasten with an additional two screws [5].
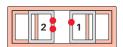
4. Push the first opening sash shut until the top edge [B] of the lowest striker [6] can be transferred to the first opening sash.

   Open the first opening sash again and fasten the anti-lifting device [7] to the first opening sash with two screws, at an offset of 1 mm from the top edge of the striker.
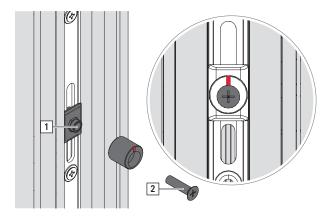
Timber

Installing the operating sequence control

1. Move the handle of the second opening sash to the closed sliding position.

2. Attach the bolt at the position provided [1] on the espagnolette of the second opening sash. The marking (red) points up.

   Fasten with one screw [2].

3. Push the first opening sash shut until the lower edge [A] of the bolt can be transferred to the first opening sash.

   Open the first opening sash again and pre-position the stop [3] on the first opening sash with two screws [4] in slots, at an offset of 2 mm from the lower edge of the bolt.
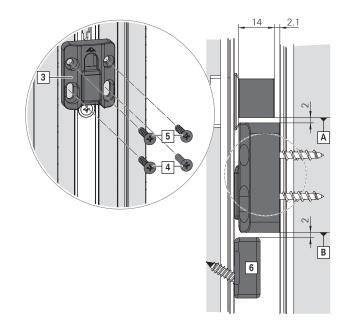
   Check the position and fasten with an additional two screws [5].

   Push the first opening sash shut until the lower edge [B] of the stop can be transferred to the second opening sash.
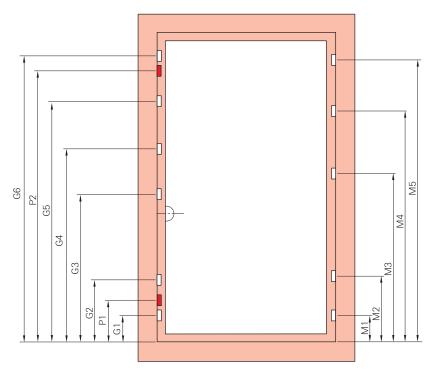
   Open the first opening sash again and fasten the anti-lifting device [6] to the second opening sash with two screws, at an offset of 2 mm from the stop.

9.5 Frame

9.5.1 Striker positions

Standard

▢ Striker / MUL striker

▮ Buffer

Striker, screw-on, on the espagnolette side

SRH / mm	G1	G2	G3	G4	G5	G6
2000 - 2200	86	721	1391	SRH-13	–	–
2201 - 2400	86	721	1391	SRH-13	–	–
2401 - 2600	86	721	1791	SRH-13	–	–
2601 - 2800	86	721	1791	SRH-13	–	–
2801 - 3000	86	721	1791	SRH-613	SRH-13	–
3001 - 3200	86	721	1791	SRH-813	SRH-13	–
3201 - 3400	86	721	1791	SRH-1013	SRH-13	–
3401 - 3600	86	721	1791	SRH-1213	SRH-613	SRH-13

Striker, can be routed in, on the espagnolette side

SRH / mm	G1	G2	G3	G4	G5	G6
2000 - 2200	94	718	1388	SRH-16	–	–
2201 - 2400	94	718	1388	SRH-16	–	–
2401 - 2600	94	718	1788	SRH-16	–	–
2601 - 2800	94	718	1788	SRH-16	–	–
2801 - 3000	94	718	1788	SRH-616	SRH-16	–
3001 - 3200	94	718	1788	SRH-816	SRH-16	–
3201 - 3400	94	718	1788	SRH-1016	SRH-16	–
3401 - 3600	94	718	1788	SRH-1216	SRH-616	SRH-16
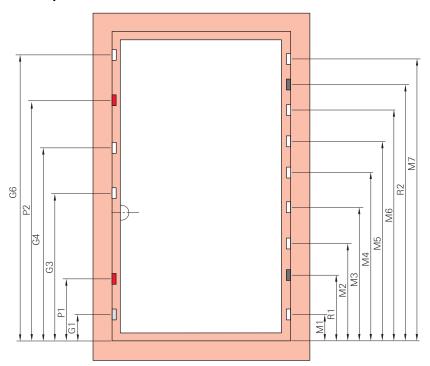
MUL striker, on the mullion side

SRH / mm	M1	M2	M3	M4	M5
2000 - 2200	219	SRH-949	SRH-149	–	–
2201 - 2400	219	SRH-1149	SRH-149	–	–
2401 - 2600	219	SRH-1349	SRH-749	SRH-149	–
2601 - 2800	219	SRH-1549	SRH-749	SRH-149	–
2801 - 3000	219	SRH-1749	SRH-949	SRH-149	–
3001 - 3200	219	SRH-1949	SRH-1149	SRH-149	–
3201 - 3400	219	SRH-2149	SRH-1149	SRH-149	–
3401 - 3600	219	SRH-2349	SRH-1749	SRH-749	SRH-149

Buffer in conjunction with striker, screw-on [1] / can be routed in [2]

SRH / mm	P1 [1]	P1 [2]	P2 [1]	P2 [2]
2000 - 3600	185	184	SRH-125	SRH-106

Security

	SEC striker (on the handle side), SEC MUL striker (on the mullion side)
	Striker for anti-pushback function
	SEC striker to prevent incorrect operation
	Buffer

SEC striker, screw-on, on the espagnolette side

SRH / mm	G1	G2	G3	G4	G5	G6
2000 - 2200	86	721	1391	SRH-13	–	–
2201 - 2400	86	721	1391	SRH-13	–	–
2401 - 2600	86	721	1791	SRH-13	–	–
2601 - 2800	86	721	1791	SRH-13	–	–
2801 - 3000	86	721	1791	SRH-613	SRH-13	–
3001 - 3200	86	721	1791	SRH-813	SRH-13	–
3201 - 3400	86	721	1791	SRH-1013	SRH-13	–
3401 - 3600	86	721	1791	SRH-1213	SRH-613	SRH-13

SEC MUL striker, on the mullion side

SRH / mm	M1	M2	M3	M4	M5	M6	M7
2000 - 2100	219	SRH-1279	SRH-679	SRH-149	–	–	–
2101 - 2300	219	SRH-1479	SRH-1079	SRH-679	SRH-149	–	–
2301 - 2500	219	SRH-1679	SRH-1079	SRH-679	SRH-149	–	–
2501 - 2700	219	SRH-1879	SRH-1279	SRH-679	SRH-149	–	–
2701 - 2900	219	SRH-2079	SRH-1679	SRH-1279	SRH-679	SRH-149	–
2901 - 3100	219	SRH-2279	SRH-1879	SRH-1279	SRH-679	SRH-149	–
3101 - 3300	219	SRH-2479	SRH-1879	SRH-1279	SRH-679	SRH-149	–
3301 - 3500	219	SRH-2679	SRH-2279	SRH-1879	SRH-1279	SRH-679	SRH-149
3501 - 3600	219	SRH-2879	SRH-2479	SRH-1879	SRH-1279	SRH-679	SRH-149

Striker for anti-pushback function, on the mullion side

SRH / mm	R1	R2
2000 - 2100	349	SRH-279
2101 - 2300	349	SRH-279
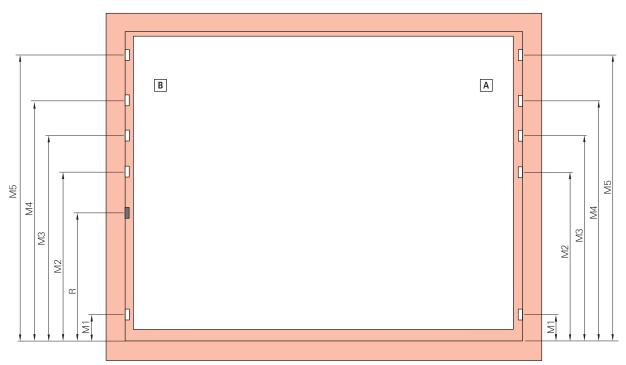
SRH / mm	R1	R2
2301 - 2500	349	SRH-279
2501 - 2700	349	SRH-279
2701 - 2900	349	SRH-279
2901 - 3100	349	SRH-279
3101 - 3300	349	SRH-279
3301 - 3500	349	SRH-279
3501 - 3600	349	SRH-279

Buffer in conjunction with striker, screw-on [1] / can be routed in [2]

SRH / mm	P1 [1]	P1 [2]	P2 [1]	P2 [2]
2000 - 3600	185	184	SRH-125	SRH-106

Diagram C / C'

Standard

[A] First opening sash; [B] Second opening sash

MUL striker
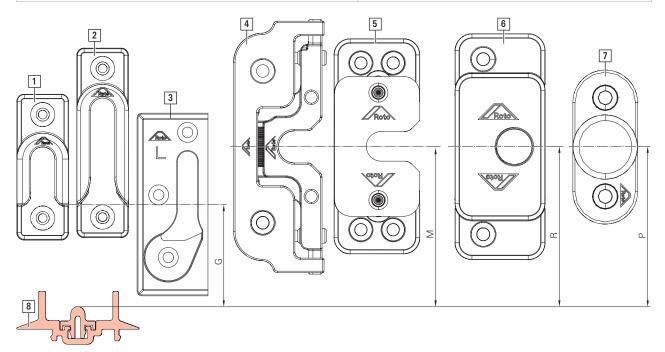
Striker for anti-pushback function

MUL striker, on the mullion side

SRH / mm	M1	M2	M3	M4	M5
2000 - 2200	219	SRH-949	SRH-149	–	–
2201 - 2400	219	SRH-1149	SRH-149	–	–
2401 - 2600	219	SRH-1349	SRH-749	SRH-149	–
2601 - 2800	219	SRH-1549	SRH-749	SRH-149	–
2801 - 3000	219	SRH-1749	SRH-949	SRH-149	–
3001 - 3200	219	SRH-1949	SRH-1149	SRH-149	–
3201 - 3400	219	SRH-2149	SRH-1149	SRH-149	–
3401 - 3600	219	SRH-2349	SRH-1749	SRH-749	SRH-149

Striker for anti-pushback function, on the mullion side

SRH / mm	R
2000 - 2200	SRH-1079
2201 - 2400	SRH-1279
2401 - 2600	SRH-1479
2601 - 2800	SRH-1679
2801 - 3000	SRH-1879
3001 - 3200	SRH-2079
3201 - 3400	SRH-2279
3401 - 3600	SRH-2479

[1] Striker, screw-on (G1 [1] - G6)

[2] Striker to prevent incorrect operation (G1 [2])

[3] Striker, can be routed in, for timber (G1 - G6)

[4] MUL striker (M1 - M5)

[5] SEC MUL striker (M1 - M7)

[6] Striker for anti-pushback function (R)

[7] Buffer (P1 - P2)

[8] Roller track

---

i INFO

- Align the screw-on striker with the point of entry.
- For the striker, which can be routed in, observe the routing drawing → *9.3.5 "Striker H, can be routed in" from page 95*. Insert the striker, which can be routed in, in the centre of the routing.
- Align the MUL striker and the striker for anti-pushback function in the centre.
- Dimensions M1 - M4 apply to the coverage between the guide track and control unit of ≥ 9 mm.
- Pay attention to the profile assessment.

9.5.2   Striker, screw-on

9.5.2.1   Preparing the frame for the striker, screw-on
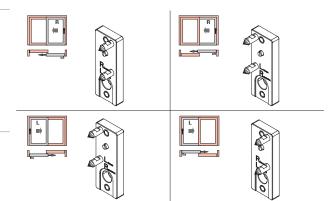
i	**INFO**

The marker can be used for sashes that run inward or outward.
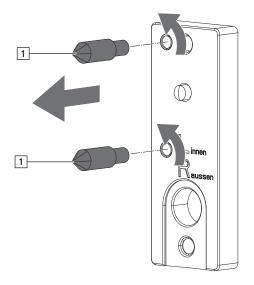
In its delivery state, it is suitable for:

- DIN L running inward
- DIN R running outward
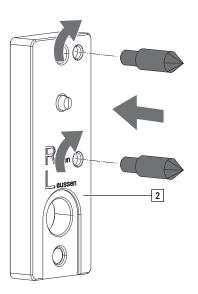
Preparing the marker

1. Unscrew the tip of the marker [1].

2. Turn the marker [2] and reinsert the tip of the marker on the rear.

3. Tighten the tip of the marker.

> **i** **INFO**
>
> The marker is now suitable for:
>
> - DIN R running inward
> - DIN L running outward

Marking a position
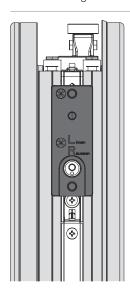
1. Place the markers for strikers, screw-on, [1] on the espagnolette side on each locking cam [2].
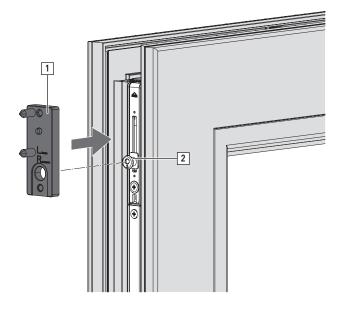
> **i** **INFO**
>
> When using the marker to determine the correct drill markings, move the handle to the open position.
>
> The correct position is ensured using a magnet in the marker.
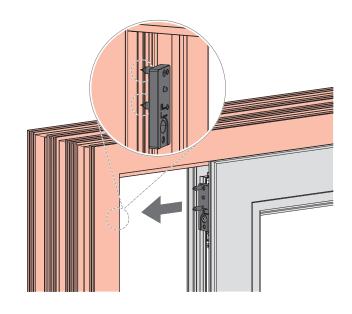
2. Close the sash with the marker fitted.
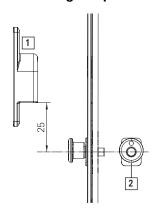
   View without sash and hardware:

   When closing the sash, the tips of the markers create two marks in the frame profile. These mark the correct drilling position for the striker in question.

9.5.2.2 Drilling the holes for the striker

Dimensional drawing in open sliding position

[1] Striker, screw-on
[2] Locking cam

1. For the position of the strikers, see the installation drawing → *from page 154*. Alternatively: with marking jig.
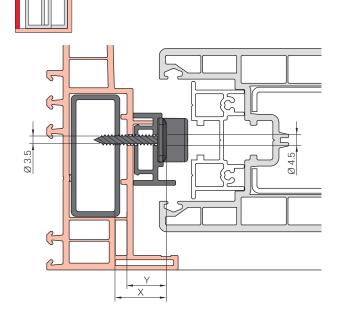
   > **i INFO**
   > Predrill the frame profile with steel core.
   > Drill: 2 x Ø 3.5 mm; depth = X
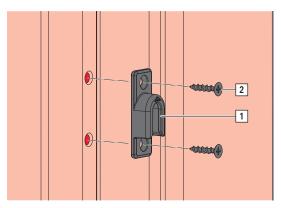
   Drill: 2 x Ø 4.5 mm; depth = X

9.5.2.3   Installing the striker

1. Fasten each striker [1] with two screws [2].
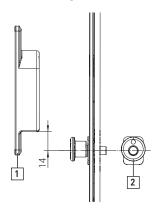
9.5.3 Striker to prevent incorrect operation

9.5.3.1 Drilling the holes for the striker to prevent incorrect operation

Dimensional drawing in open sliding position

[1] Striker to prevent incorrect operation
[2] Locking cam

1. For the position of the striker to prevent incorrect operation, see the installation drawing.

   INFO

   Predrill the frame profile with steel core.
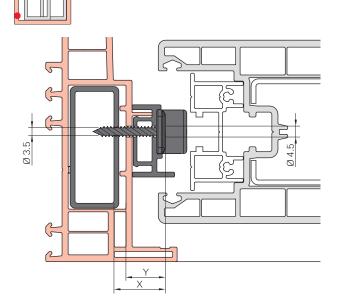
   Drill: 2 x Ø 3.5; depth = X

   Drill holes.
   Drill: 2 x Ø 4.5; depth = Y

9.5.3.2 Installing the striker to prevent incorrect operation
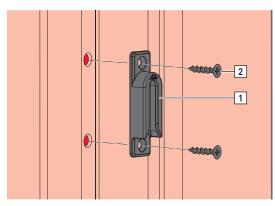
1. Secure the striker to prevent incorrect operation [1]
   with two screws [2].

i	**INFO**
	Note the drilling specifications → *9.5.3.1 "Drilling the holes for the striker to prevent incorrect operation" from page 129*.
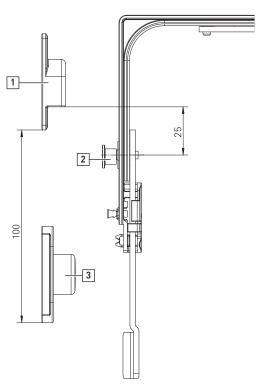
9.5.4 Buffer

9.5.4.1 Drilling the holes for the buffer

Dimensional drawing in open sliding position

[1] Striker
[2] Locking cam on the corner drive
[3] Buffer

> **i INFO**
> The version on the bottom is mirror-inverted.

1. For the position of the buffer, see the installation
   drawing → *from page 154*.
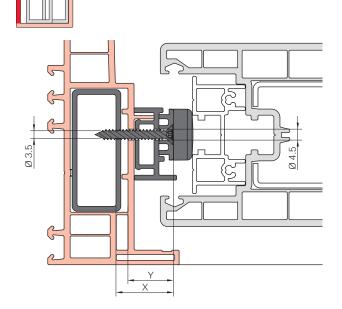
> **i INFO**
> Predrill the frame profile with steel core.
> Drill: 2 x Ø 3.5 mm; depth = X
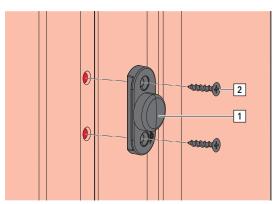
Drill: 2 x Ø 4.5 mm; depth = X

9.5.4.2 Installing the buffer

1. Fasten each buffer [1] with two screws [2].
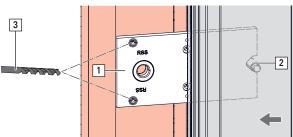
9.5.5 Striker for anti-pushback function

Installing the striker for anti-pushback function

1. Place the drilling jig for striker for anti-pushback function [1] flush against the frame profile at the height of the pin [2]. For better guidance, move the sash with pin fitted in the direction of the arrow.

   Drill the holes [3].

   Drill: timber Ø 3.0; PVC Ø 3.5
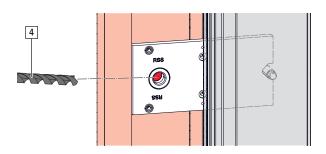
2. Drill the hole [4].

   Drill: Ø 12.5 mm
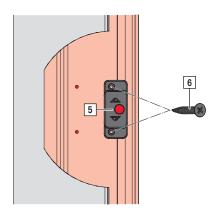
   > **i** **INFO**
   > Refer to the system-specific profile assessment for the drilling depth.
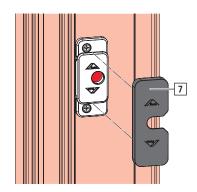
3. Secure the striker for anti-pushback function [5] with two screws [6].

4. Clip the cover cap [7] onto the striker for anti-pushback function.

9.5.6 Roller track

i **INFO**

Pay attention to the profile assessment.

- Adapt the width of the roller track under your own responsibility.
- Seal the roller track properly under your own responsibility. Prevent water from entering underneath the roller track.
- Fit a water drain under your own responsibility so that water is drained away to the outside in a controlled manner.
- Ensure that the roller track is securely attached.
- Protect the roller track against contamination and additional surface treatment.
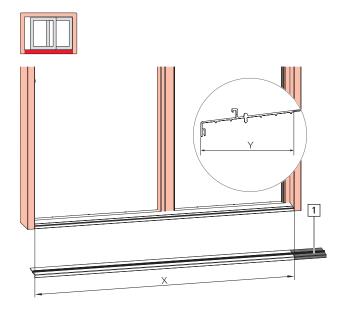
Version with continuous roller track

Diagram A' is shown here.
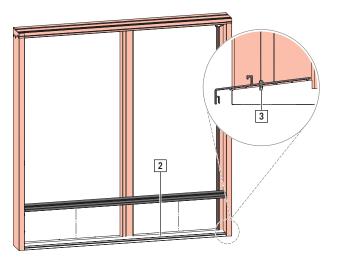
1. Cut the roller track [1] to size.

   $X = FIW - 2$ mm

   Y = profile width

2. Place the roller track on the threshold [2] and press down firmly into the threshold groove [3].

Version with split roller track

Diagram C' is shown here.

1. Cut the roller tracks [1] to size.
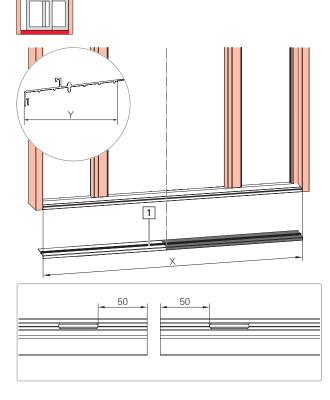
> **INFO**
>
> Ensure that the drainage holes are located at least 50 mm away from the edge.
>
> Cut both roller tracks to the same length.
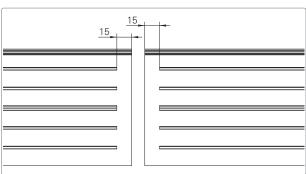
X = (FIW - 2 mm)

Y = profile width
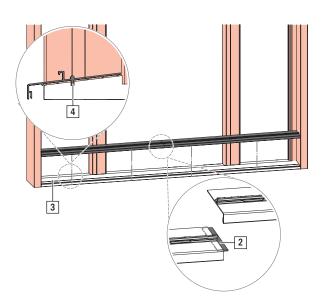
2. Remove the roller track grooves in the joint area.

3. Attach a sealing strip [2] as a connection element between the two roller tracks.

   Place the roller tracks on the threshold [3] and press down firmly into the threshold groove [4].

9.5.7 Guide track

ATTENTION

Protruding screw heads may cause property damage.

Protruding screw heads in the area of the activator when opening the sash can damage the control unit.

1. Do not screw the guide track in the area of the activator.

INFO
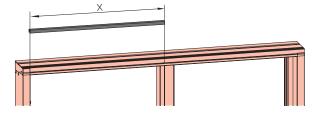
- Pay attention to the system-specific profile assessment.
- Seal the guide track properly under your own responsibility. Prevent water from entering underneath the guide track.
- Ensure that the guide track is securely attached.

  Adhere to a screw spacing of max. 300 mm.

Preparing the guide track – version with split guide track

1. Cut the guide track for the access area to size and predrill it.

   X = (FIW - 2 mm)/2
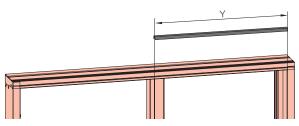
2. Cut the guide track for the fixed glazing area to size and predrill it.
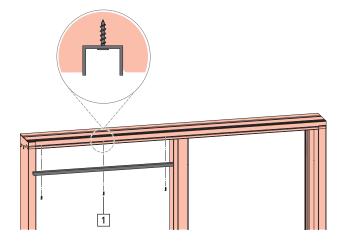
   X = (FIW - 2 mm)/2

Installing the guide track in the access area – version with split guide track

1. Insert the guide track into the frame in the access area and fasten with screws [1] (screws spaced max. 300 mm apart).

> **i** **INFO**
> Only install the guide track in the fixed glazing area once the sash has been inserted.

9.5.8 Rubber buffer

Installing rubber buffers
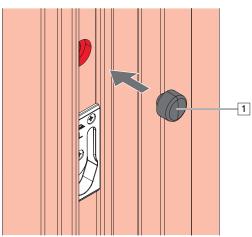
1. Insert the rubber buffer [1].

> **i** **INFO**
> Note the drilling specifications → *from page 96*.

9.6 Joining the sash and frame

> ⚠ **CAUTION**
> **Heavy loads pose a risk of injury.**
> Lifting and carrying heavy loads in an uncontrolled manner may lead to physical injury.
> ▸ Transport and installation must be carried out by at least two people.
> ▸ Use transportation means. → *15 "Transport" from page 168*
> ▸ Note the applicable accident prevention regulations.

> ⚠ **ATTENTION**
> **Heavy loads may cause property damage.**
> Lifting and carrying heavy loads in an uncontrolled manner may lead to property damage.
> ▸ Transport and installation must be carried out by at least two people.
> ▸ Use transportation means. → *15 "Transport" from page 168*
> ▸ Do not rest sashes on the rollers.

Installation
Joining the sash and frame
Inserting the sash

9.6.1 Inserting the sash

⚠️ **WARNING**

An unsecured sash may pose a risk of death!

The sash may fall during installation if it is not securely connected to the frame.

▶ Secure the sash to prevent it from falling, e.g. by using two people.

ℹ️ **INFO**

- Pay attention to the system-specific profile assessment.
- Seal the guide track properly under your own responsibility. Prevent water from entering underneath the guide track.
- Ensure that the guide track is securely attached.

  Adhere to a screw spacing of max. 300 mm.

Version with split guide track, inserting the sash at the bottom

The guide track is installed in the access area.

The guide track for the fixed glazing area is prepared .
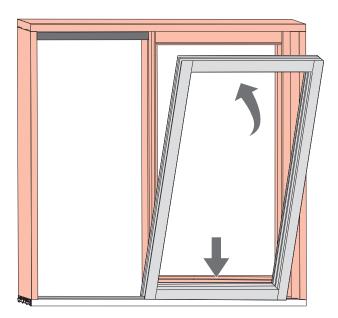
1. Move the handle to the open sliding position

   .

2. In front of the fixed glazing area, insert the sash at the bottom of the frame and position the roller unit on the roller track without impact.

   For roller tracks with just one wall, ensure that the roller unit rollers are not set down next to the roller track.

   Check that the roller unit rollers are correctly positioned on the roller track by pushing the sash.
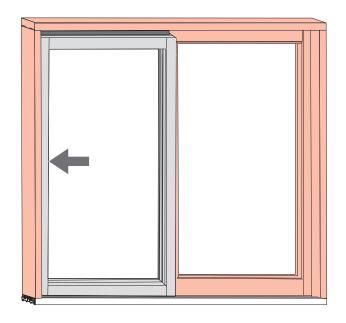
Installation
Joining the sash and frame
Inserting the sash

3. Push the sash onto the roller track in front of the access area in a controlled manner until all control units are located in the guide track that is already installed.
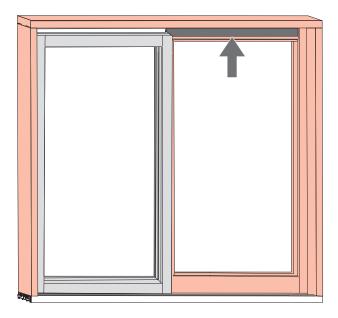
4.
    Move the handle to the closed position .
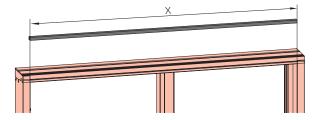
5. Insert the prepared guide track into the frame in the fixed glazing area and fasten with screws (screws spaced max. 300 mm apart).

Version with continuous guide track, inserting the sash at the bottom

1. Cut the guide track to size.

Installation
Joining the sash and frame
Inserting the sash

2. Move the handle to the open sliding position

.
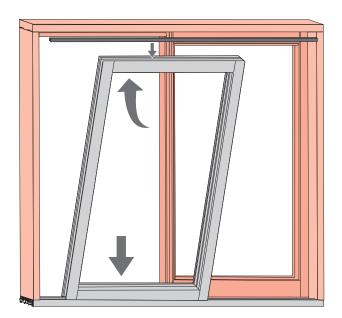
3. In front of the access area, insert the sash at the bottom of the frame and position the roller unit on the roller track without impact.

   For roller tracks with just one wall, ensure that the roller unit rollers are not set down next to the roller track.
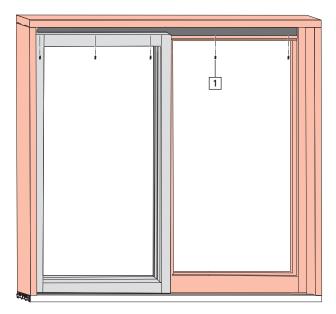
   Check that the roller unit rollers are correctly positioned on the roller track by pushing the sash.

   Position the guide track on the control units at the top.

   Tilt the sash with guide track fitted inwards in a controlled manner at the top until the guide track can be installed in the frame groove provided.
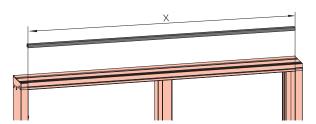
4. Fasten the guide track with screws [1] (screws spaced max. 300 mm apart).

Version with continuous guide track, inserting the sash at the top

1. Cut the guide track to size.

Installation
Joining the sash and frame
Inserting the sash
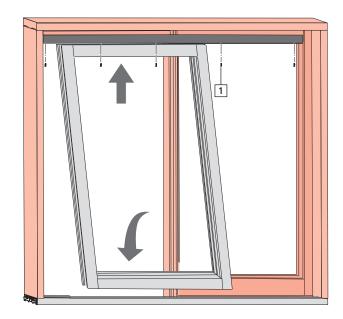
2. Fasten the guide track with screws [1] (screws spaced max. 300 mm apart).

   Move the handle to the open sliding position

   .

   In front of the access area, insert the sash at the top of the frame until the control units engage in the guide track.

3. Tilt the sash inwards in a controlled manner at the bottom until the roller units are positioned vertically on the roller track.

   For roller tracks with just one wall, ensure that the roller unit rollers are not set down next to the roller track.

   Check that the roller unit rollers are correctly positioned on the roller track by pushing the sash.
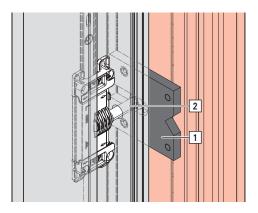
9.6.2 MUL striker
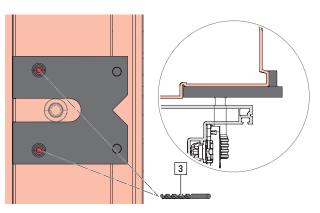
9.6.2.1 Drilling the holes for the MUL striker

1. Place the drilling jig for MUL striker [1] flush against the frame profile at the height of the locking cam [2]. Mark the position of the drilling jig.

2. Drill the holes [3].
   Drill: timber Ø 3.0; PVC Ø 3.5

9.6.2.2   Installing the MUL striker
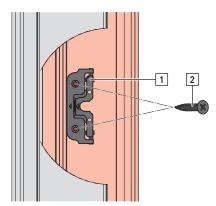
1. Secure the MUL striker [1] with two screws [2].

i	**INFO**
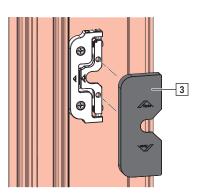
   Note the drilling specifications → *9.6.2.1 "Drilling the holes for the MUL striker" from page 142*.

2. Clip the cover cap [3] onto the MUL striker.
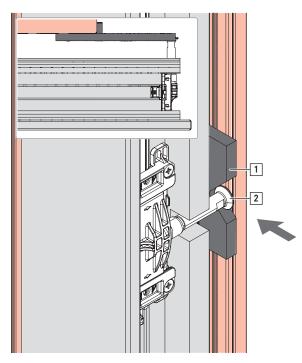
9.6.3   SEC MUL striker
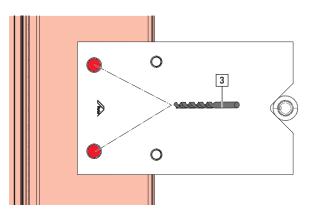
9.6.3.1   Drilling the holes for the MUL striker

1. Place the drilling jig for MUL striker [1] flush against the frame profile at the height of the locking cam [2]. Mark the position of the drilling jig.

2. Drill the holes [3].
   Drill: timber Ø 3.0; PVC Ø 3.5

Installation
Joining the sash and frame
Activator and packer

9.6.3.2 Installing the SEC MUL striker
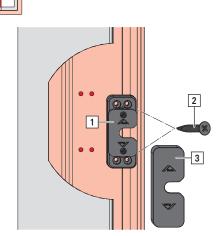
1. Secure the SEC MUL striker [1] with four screws [2].

> **i** **INFO**
> Note the drilling specifications .

Clip the cover cap [3] onto the SEC MUL striker.

9.6.4 Activator and packer
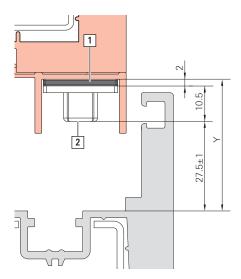
⇨ The control unit with soft function comes assembled in its delivery state (= untensioned).

⇨ The element is glazed.

9.6.4.1 Determining the quantity of packers

1. Calculate or refer to the profile assessment for the quantity of packers required [1].

   Quantity of packers = (Y - 38) / 2

   Maintain a distance of 27.5±1 mm between the highest point of the activator [2] and the control unit supporting surface.

Installation
Joining the sash and frame
Activator and packer

9.6.4.2 Diagram A

Installing the activator with / without packer(s) on the espagnolette side
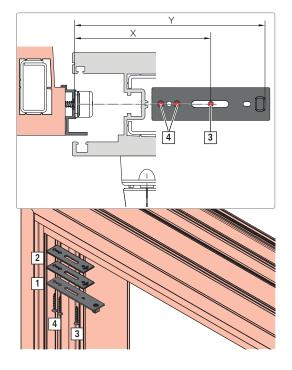
1. Connect the packers to the activator using locating aids. Ensure that the slots are aligned.

   Predrill a hole for the screw [3] (for dimension X, see the profile assessment). Slightly tighten the activator with one screw to position it (for dimension Y, see the profile assessment) so that the activator can still be moved.

   Close the sash slowly and open it again to move the activator into the installation position.

   Predrill the holes for screws [4].

   Fasten the activator with three screws.

Installing the activator with / without packer(s) on the mullion side

1. Connect the packers to the activator using locating aids. Ensure that the slots are aligned.

   Predrill a hole for the screw [1] (for dimension Z, see the profile assessment). Slightly tighten the activator with one screw to position it (for dimension Y, see the profile assessment) so that the activator can still be moved.

   Open the sash fully and close it again to move the activator into the installation position.
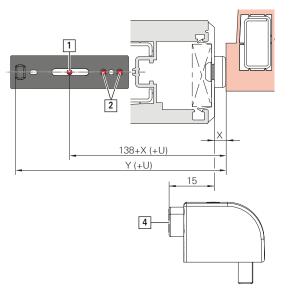
   Predrill the holes for screws [2].

   Fasten the activator with three screws.
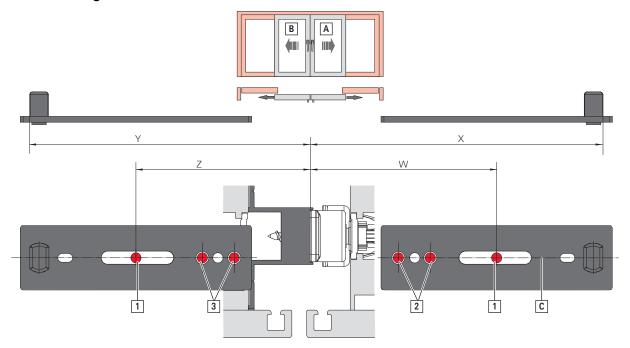
> **INFO**
>
> Control unit with SoftOpen and SoftStop on the mullion side: if the sash is to be prevented from coming into contact with the buffer, move the screw position by the required dimension U. Tension the control unit with SoftStop → *from page 148*. Open the sash fully. Transfer the position of the sash installation surface [3] to the roller track. Install the end stop [4] offset by 15 mm towards the sash.

Installation
Joining the sash and frame
Activator and packer

9.6.4.3   Diagram C

[A] First opening sash

[B] Second opening sash

[C] Centre of guide groove in the guide track

1. Connect the packers to the activator using locating aids. Ensure that the slots are aligned.

    Predrill a hole for the screw [1] (for the first opening sash to dimension W, for the second opening sash to dimension Z, see profile assessment). Slightly tighten every activator with one screw each to position them (for dimensions X and Y, see the profile assessment) so that the activator can still be moved.

    Close the second opening sash [B] slowly and open it again to move the activator into the installation position.

    Predrill the holes for screws [2].

    Secure with three screws.

    Close the second opening sash and move the handle to the closed position.

    Close the first opening sash [A] slowly and open it again to move the activator into the installation position.

    Predrill the holes for screws [3].

    Secure with three screws.

Installation
Joining the sash and frame
Tensioning the control unit with soft function

9.6.5   Tensioning the control unit with soft function
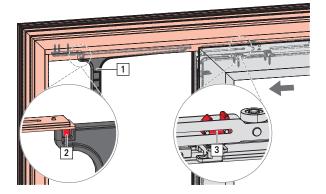
⚠ **CAUTION**

Risk of injury caused by tensioning the control unit with soft function by hand.
When installing the control unit with soft function, tensioning by hand may cause injuries due to sharp edges.
1. Only tension the control unit with soft function using a tensioning tool.

1. Mount the tensioning tool recess [1] in the activator bolt [2].

   Push the element shut slowly until the connector [3] on the tensioning tool engages in the control unit with soft function.

2. Open up the element slowly to activate the soft function. The connector on the tensioning tool will be released automatically.

Installation
Joining the sash and frame
Tilt protection device

9.6.6 Tilt protection device

⚠ DANGER

The uncontrolled tilting of sashes with aspect ratios > 2:1 poses a risk of death!
Uncontrolled tilting may cause sashes with aspect ratios > 2:1 to jump out of the guide track. This many lead to hazardous situations and cause serious or fatal accidents.

▸ The roller track must have two walls → *3.6 "Dimensions of the roller track" from page 28*.
▸ Install the tilt protection device (only without control unit with Soft function) → *3.7 "Dimensions of the tilt protection device" from page 28*.

⚠ ATTENTION

Premature installation may cause property damage.
If the tilt protection device is installed before the sash and frame are joined, this can damage the installed hardware.
1. Only install the device once the sash and frame have been joined.
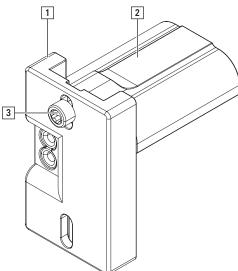
ℹ INFO

Example diagram.
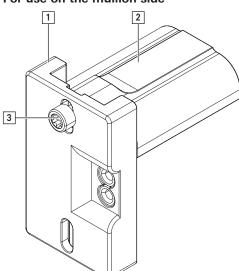
Drilling patterns are profile-related (available upon request).

Preparing the drilling jig

For use on the espagnolette side

For use on the mullion side

1. Detach the drilling plate [1] from the stop [2] by loosening the screw [3].
2. Turn the drilling plate 180°.
3. Fasten the drilling plate to the stop with one screw.

Installation
Joining the sash and frame
Tilt protection device

Drilling the holes for the tilt protection device

1. Open the sash.

   Move the handle to the closed position .

   Loosen the screw [1] on the drilling plate [2].

   Position the drilling jig on the corner of the sash at the top on the espagnolette side.
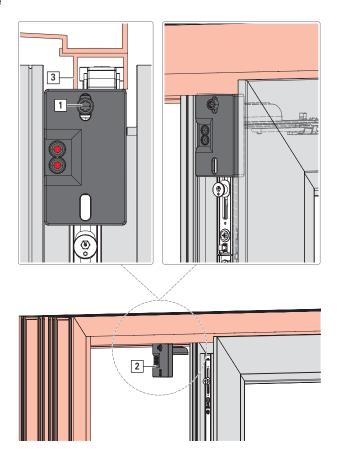
   ■ **Inward running sashes**: position the drilling jig so that the side with the drill holes is **facing away** from the handle.

   ■ **Outward running sashes**: position the drilling jig so that the side with the drill holes is **facing** the handle.

   Push the drilling plate up until it reaches the stop on the guide track [3].

   Fasten the drilling plate with a screw again.
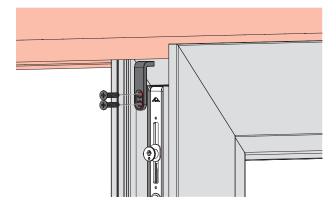
   Align the drilling jig so that it is centred relative to the hardware and drill through two walls.

   Drill: 2 x Ø 3.5

Installing the tilt protection device
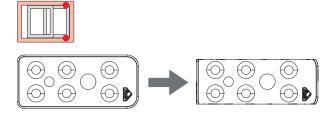
⇨ The adapter profile (if present) is routed ➔ *from page 96*.

⇨ The adapter profile stops flush with the sash rebate.

1. Fasten the tilt protection device with two screws through two walls.

Installation
Joining the sash and frame
End stop with packer
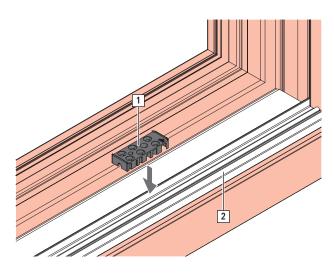
9.6.7 End stop with packer

1. Adapt the end stop packer and, if necessary, the end stop on a profile-related basis.
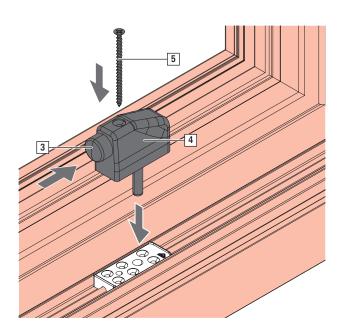
2. Place the end stop packer [1] on the roller track [2] and fasten with screws.

3. Drill the holes for the end stop.
   [A]: Ø 8.0+0.2 (1x)
   [B]: predrill Ø 3.0 (1x)

4. Install the rubber buffer [3] in the end stop [4], position it on a packer, and fasten with a screw [5].

Installation
Joining the sash and frame
Guide track stopper

9.6.8　Guide track stopper

	INFO
i	Pay attention to the profile assessment.

Installing the guide track stopper, diagram A
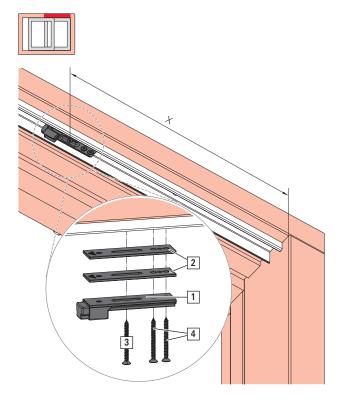
1. Insert the stopper [1] and, if required, packers [2] into the guide track.

   X = profile-related

   Screw down loosely with one screw [3] but so that it is not yet secure.

   Check the stopper position and reposition if necessary.

   Fasten the stopper with three screws (first [3], then [4]).
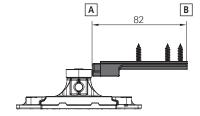
Installing the guide track stopper, diagram C

⇨ Second opening sash is on the bench: mark the position of the roller outer edge of the control unit on the espagnolette side [A].

1. Close the second opening sash.

   Transfer the marking for the "position of the roller outer edge of the control unit" from the sash to the frame and move it 82 mm towards the espagnolette side [B].

Installation
Joining the sash and frame
Notes on final assembly
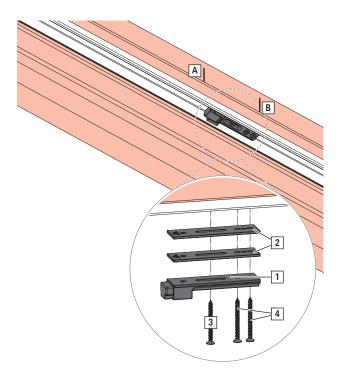
2. Insert the stopper [1] and, if required, packers [2] into the guide track.

   Move the stopper up to the marking [B].

   Screw down loosely with one screw [3] but so that it is not yet secure.

   Check the stopper position and reposition if necessary.

   Fasten the stopper with three screws (first [3], then [4]).

9.6.9   Notes on final assembly

DANGER
Risk of death caused by excessive bending of the running profile.
Incorrect installation of the sash in an element that bends by ≥ 3 mm may cause the sash to fall out.
1. Underlay the element so that it bends by < 3 mm.

INFO
In order to ensure the proper functioning and security of the element, the bending of the frame must not exceed 3 mm.
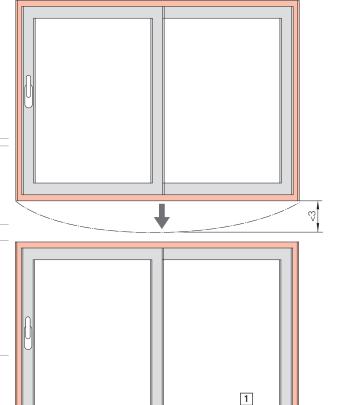
INFO
Up to 250 kg: place pressure-proof packers under the threshold every 300 mm across its entire area (see figure).

From 250 kg: place pressure-proof packers under the threshold along its entire length.
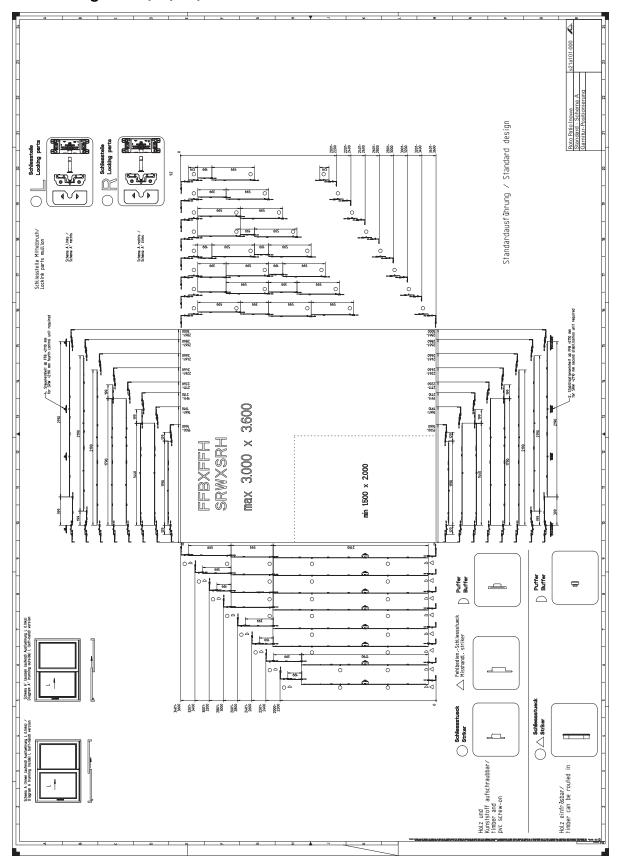
[1] Packer

10   Installation drawings

10.1   Explanation

The following markings are used in the installation drawings to emphasise references and other elements:

| Marking	Meaning
2.Stabilisationseinheit ab FFB >2110	Second stabilisation unit from sash rebate width > 2110 mm
4.Steuereinheit ab FFB >2110	Fourth control unit from sash rebate width > 2110 mm
aktiv	First opening
Ansicht von innen	View from inside
Ausfuehrung	Version
aussen laufend	Running outward
Beschlagteile links	Hardware components, left
Beschlagteile rechts	Hardware components, right
FFB	Sash rebate width
Fehlbed.-Schliessstueck	Striker to prevent incorrect operation
Fehlbed.-Schliessstueck RC2	SEC striker to prevent incorrect operation
FFH	Sash rebate height
Garnitur-Positionierung	Set positioning
Holz	Timber
Holz einfräsbar	Timber, can be routed in
Holz und Kunststoff aufschraubbar	Timber and PVC, screw-on
innen laufend	Running inward
Kunststoff	PVC
min	Minimum
max	Maximum
passiv	Second opening
Puffer	Stop
RC 2 / RC 2 N	RC 2 / RC 2 N
Rueckschiebesicherung	Anti-pushback function
Schaltfolgeregelung	Operating sequence control
Schema A	Diagram A
Schema A'	Diagram A'
Schema C	Diagram C
Schema C'	Diagram C'
Schliessstueck RC2	RC 2 striker
Schliessteile	Locking components
Schliessteile Mittelbruch	Locking components on the mullion
Standard	Standard
Standardausfuehrung	Standard version

10.2 Diagram A, K, A', K'
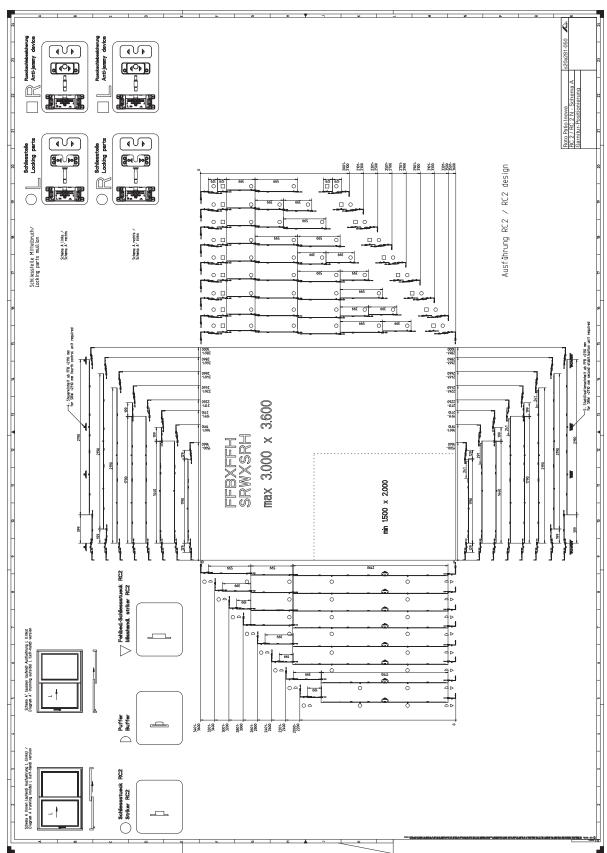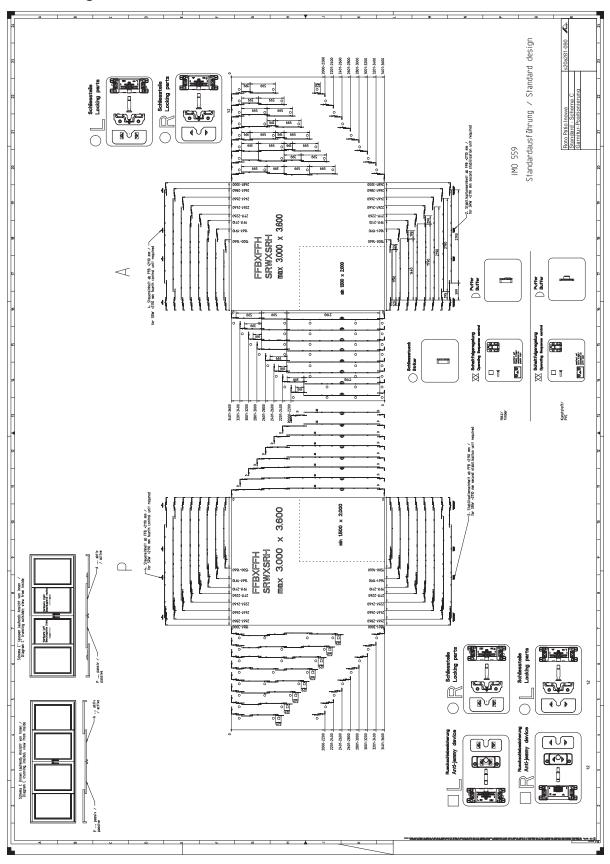
10.3　Diagram A, K | RC 2 / RC 2 N | PVC

10.4 Diagram C, C'

11 Adjustment

> **INFO**
> Roto hardware components may only be adjusted by authorised professionals when the element is installed.

11.1 Striker

> **INFO**
> Roto hardware components may only be adjusted by authorised qualified personnel.
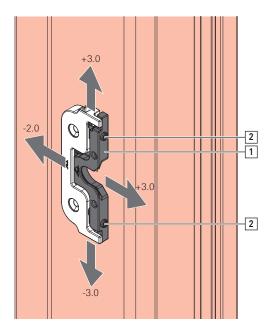
Lateral adjustment

1. Close the window sash (handle position open).

2. Adjust the striker [1] using two threaded pins [2] in the fastening plate.

   Tool: size 2.5 hex key.

   > **INFO**
   > The striker features variable height adjustment, which permits an installation tolerance of ±3 mm for the locking cam.
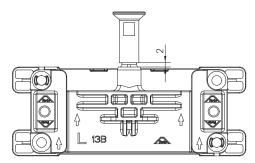

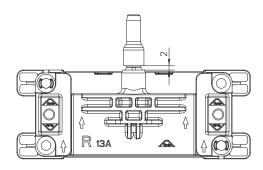## 11.2 MUL locking cam / pin for anti-pushback function – adjustable

> **INFO**
> Roto hardware components may only be adjusted by authorised qualified personnel.
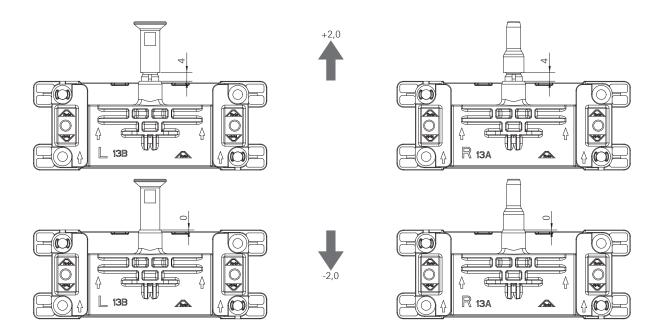
Gasket compression adjustment

Initial position

11.3   Roller unit

> **i** **INFO**
> Roto hardware components may only be adjusted by authorised qualified personnel.
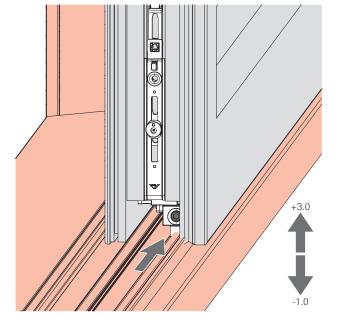
Height adjustment

1. Open the window sash in the sliding position.

2. Adjust the roller unit using the screw.
   - Height adjustment +3 mm: tighten the screw clockwise.
   - Height adjustment -1 mm: loosen the screw anticlockwise.

   Tool: size 4 hex key

   > **i** **INFO**
   > The screw has a defined final position. If you start to feel resistance, stop turning the screw.

12   Operation

12.1   Operating information

The windows and balcony doors are operated using a handle.

The following symbols illustrate the different handle positions and the resultant sash positions of the windows and balcony doors.

12.1.1   Roto Patio Inowa

⚠️ **ATTENTION**

Risk of being accidentally locked out.

If the sash is in the sliding position and closes, the sash can engage and then be impossible to reopen from the outside.

▶ Secure the sash against accidentally engaging when in the sliding position.
▶ Ensure that access is possible if necessary.

Handle position	Sash position	Meaning
		Sash in closed position.
		Sash in open sliding position.
		Sash in closed sliding position.

12.2   Fault assistance

Fault	Cause	Corrective action	To be carried out by
Handle is difficult to turn.	Frame components have not been greased.	Grease the frame components.	☐
	Handle is damaged.	Replace the handle.	■
	Handle screwed into place too tightly.	Undo the screw fixing slightly.	■
	Sash components with slanting screws.	Screw the sash components in straight.	■
	Sash components are damaged.	Replace the sash components.	■
	Incorrect striker positions.	Adapt the striker positions.	■
Handle cannot be turned 180°.	Sash components hinged or installed incorrectly.	Check the setting in the turn position (potentially rehang – start from the T&T espagnolette).	■
Locking cams brush against the striker.	Sash components hinged or installed incorrectly.	Check the setting in the turn position (potentially rehang – start from the T&T espagnolette).	■
	Incorrect striker positions.	Adapt the striker positions.	■

☐ = May be carried out by a specialist company or the end user

■ = **Must** be carried out by a specialist company

13 Maintenance

> ⚠️ **CAUTION**
>
> **Performing maintenance work incorrectly can lead to injuries.**
>
> Performing maintenance incorrectly can lead to injuries.
> - ▸ Ensure that there is sufficient space for installation before starting work.
> - ▸ Ensure that the installation site is clean and tidy.
> - ▸ Always have hardware adjustment and replacement work performed by a specialist company.
> - ▸ Secure the sash against unintentionally opening or closing.
> - ▸ Do not unhinge the sash for maintenance.

> ⚠️ **ATTENTION**
>
> **Incorrect or improper testing may cause property damage.**
>
> Incorrect or improper testing of the hardware may cause the element to malfunction.
> - ▸ Have the hardware checked by a specialist company when installed.
> - ▸ If defects need to be remedied, have the element unhinged and remounted by a specialist company.

> ℹ️ **INFO**
>
> The manufacturer must draw the attention of builders and end consumers to these maintenance instructions.
>
> Roto Frank Fenster- und Türtechnologie GmbH recommends the manufacturer conclude a maintenance agreement with their end users.

No legal claims can be derived from the following recommendations; their application is to be based on the specific individual case.

	Responsibility	
Maintenance interval	☐	→ *from page 161*
Cleaning		→ *from page 162*
Clean hardware	☐	
Care		→ *from page 162*
Lubricate movable parts	☐	
Lubricate locking points	☐	
Performance test		→ *from page 163*
Check that hardware components are fitted securely	☐	
Inspect hardware components for wear	☐	
Check that movable parts work properly	☐	
Check that locking points work properly	☐	
Check ease of movement	■	
Repair		→ *from page 164*
Retighten screws	■	
Replace damaged components	■	

☐ = May be carried out by a specialist company or the end user

■ = **Must** be carried out by a specialist company

13.1 Maintenance intervals

> ⚠️ **ATTENTION**
>
> **Failure to adhere to maintenance intervals may cause property damage.**
>
> The maintenance interval for all tasks relating to the hardware components is **annually** at the least. In hospitals, schools and hotels, the maintenance interval is **six-monthly**.
> Regular maintenance is necessary in order to maintain the proper and smooth-running operation of the hardware and to prevent premature wear or even defects.
> - ▸ Determine and adhere to the appropriate maintenance interval in accordance with the ambient conditions.

13.2 Cleaning

⚠️ **ATTENTION**

Using incorrect cleaning agents and sealing compounds may cause property damage.

Cleaning agents and sealing compounds may damage the surfaces of components and gaskets.
- ▶ Do not use aggressive or flammable liquids, acidic cleaners or abrasive cleaners.
- ▶ Only use mild, pH-neutral cleaning agents that have been diluted.
- ▶ Apply a thin protective film to the components, for example using a cloth soaked in oil.
- ▶ Avoid aggressive vapours (e.g. produced by formic acid, acetic acid, ammonia, amine compounds, ammonia compounds, aldehyde, carbolic acid, chlorine, tannic acid) around the element.
- ▶ Do not use any acetic acid-crosslinking or acid-crosslinking sealing compounds or those with the aforementioned constituents as both direct contact with the sealing compound and its fumes can corrode the surface of the components.

Cleaning the hardware

- ▶ Clean deposits and contaminants off the hardware using a soft cloth.

- ▶ Lubricate movable parts and locking points after cleaning. → *13.3 "Care" from page 162*

- ▶ Apply a thin protective film to the hardware, for example using a cloth soaked in oil.

13.3 Care

⚠️ **ATTENTION**

Using incorrect lubricants may cause property damage.

Substandard lubricants can prevent the hardware from working properly.
- ▶ Use high-quality lubricants.
- ▶ Only use resin-free and acid-free lubricants.
- ▶ Use appropriate lubricant in more challenging climatic conditions. Note the manufacturer specifications.

⚠️ **ATTENTION**

Cleaning agents and lubricants may pollute the environment.

Leaking or excess cleaning agents and lubricants may pollute the environment.
- ▶ Remove any leaking or excess cleaning agents and lubricants.
- ▶ Dispose of cleaning agents and lubricants separately and properly.
- ▶ Observe the applicable directives and national laws.

Ease of movement can be improved by lubricating or adjusting the hardware. All functional hardware components must be lubricated on a regular basis.
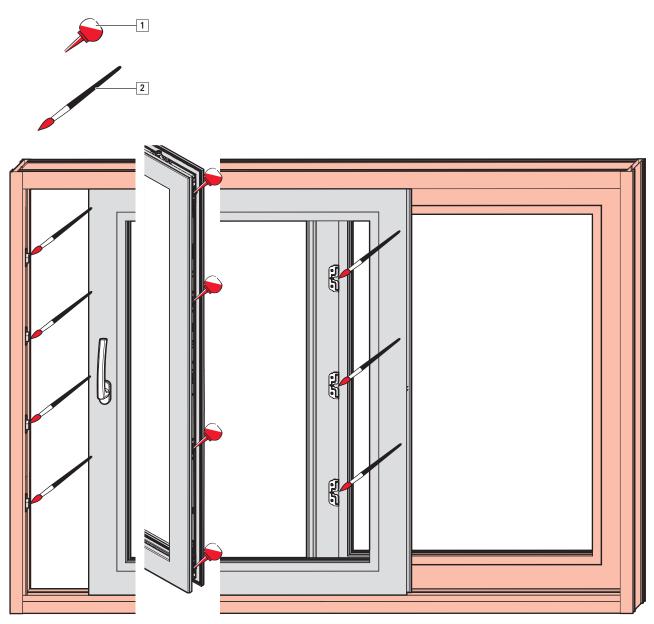
Recommended lubricants

- ◼ Roto NX / NT grease

ℹ️ **INFO**

The figure displays the positioning of potential lubrication points. The figure does not necessarily match the installed hardware. The quantity of lubrication points varies depending on the size and design of the element.

13.3.1   Roto Patio Inowa

[1] Lubricant
[2] Grease

13.4   Performance test

> ⚠️ **WARNING**
> **Improper repair work may pose a risk of death!**
> Improper maintenance may prevent the element from working properly and make it less safe to use.
> ▸   Always have repairs performed by a specialist company.

Check for proper operation:

▸   Inspect hardware components for damage, deformation and a firm fit.
▸   Check that windows or balcony doors run smoothly by opening and closing them.
▸   Check the window or balcony door gaskets for elasticity and fit.
▸   Check closed windows or balcony doors to ensure that they are leakproof.

▶ Locking and unlocking torque max. 10 Nm. The test can be performed using a torque wrench.

Have malfunctions remedied by a specialist company.

13.5 Repair

> ⚠️ **WARNING**
> **Improper repair work may pose a risk of death!**
> Improper maintenance may prevent the element from working properly and make it less safe to use.
> ▶ Always have repairs performed by a specialist company.

> ⚠️ **ATTENTION**
> **Improper screw fixings may cause property damage.**
> Loose or faulty screws can prevent the hardware from working properly.
> ▶ Check that the individual screws are secure and seated correctly.
> ▶ Tighten or replace loose or faulty screws.
> ▶ Use only the suggested screws.

Repair work includes replacing and repairing components and is only necessary if components have become damaged after wear or as a result of external circumstances. The hardware must be secured reliably in order to ensure that the element works properly and is safe to use.

The following tasks must only be performed by a specialist company:

- All adjustment work on the hardware,
- Replacing hardware or hardware components,
- Installing and removing windows, doors or balcony doors

The specialist company must observe the following:

- Perform the necessary repair work properly, according to generally recognised engineering practice and in accordance with the applicable regulations.
- Do not perform makeshift repairs on worn or damaged components.
- Only use original or approved spare parts for repairs.

14 Dismantling

WARNING
Improper dismantling may pose a risk of death!
The sash may fall during dismantling.
- ▶ Secure the sash to prevent it from falling, e.g. by using two people.
- ▶ Always have dismantling work performed by a specialist company.

CAUTION
Physical strain may cause injury and damage to health.
Carrying and lifting heavy loads for extended periods leads to physical injury in the long term.
- ▶ When carrying or lifting loads, maintain an ergonomically correct posture. The maximum permissible load is 25 kg for men and 10 kg for women.
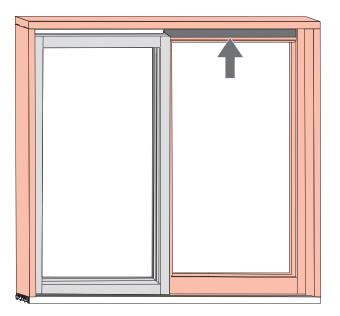
INFO
Unless otherwise stated, dismantling is performed in reverse order to installation.

14.1 Unhinging the sash

Version with split guide track
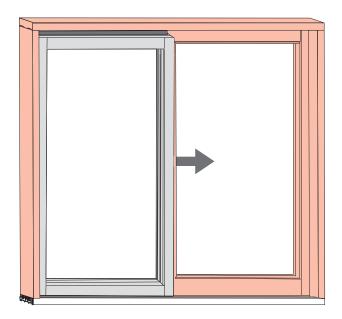
1. Remove the guide track in the fixed glazing area.
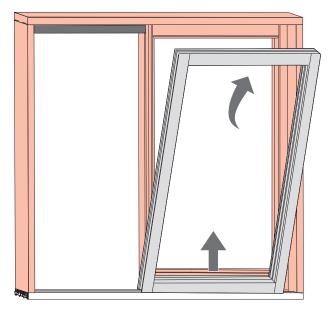
2. Move the handle to the open sliding position

.

3. Push the sash onto the roller track in front of the fixed glazing area in a controlled manner until the control units are exposed.

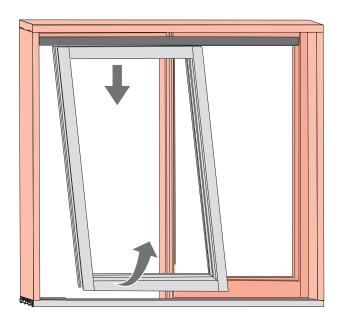4. Remove the sash parallel to the frame.

Version with continuous guide track

1. Move the handle to the open sliding position

.

2. Lift the sash and tilt it outwards at the bottom.

   Lower the sash in a controlled manner until the control units are exposed.

3. Remove the sash parallel to the frame.

14.2 Hardware components

Removing hardware components

1. Undo all screw connections.

2. Remove the hardware components.

3. Dispose of the hardware components properly.

15 Transport

15.1 Transporting elements and hardware

> **DANGER**
> **Improper transport poses a risk of death!**
> Improper procedures for transporting, loading or unloading elements may cause serious injuries and glass breakage as a result of the elements swinging open, falling or becoming overloaded.
> ▸ Note the applicable accident prevention regulations.
> ▸ Note force application points and reaction forces.
> ▸ Prevent the sash from opening uncontrollably.
> ▸ Avoid jerky movements.
> ▸ Use suitable transportation means and protective devices.
> ▸ Watch out for protruding components.
> ▸ Transport heavy loads with two people and use suitable transportation means (such as an industrial truck).

> **CAUTION**
> **Trapped limbs may result in injuries.**
> The transported goods can skid, open, close or fall during transportation tasks. This can result in limbs being trapped and seriously injured.
> ▸ Never reach near the scissor stays.
> ▸ Close the sash after installation and secure it in place for transport.
> ▸ Wear safety gloves and protective footwear.

> **CAUTION**
> **Physical strain may cause injury and damage to health.**
> Carrying and lifting heavy loads for extended periods leads to physical injury in the long term.
> ▸ When carrying or lifting loads, maintain an ergonomically correct posture. The maximum permissible load is 25 kg for men and 10 kg for women.

Hardware is supplied to the specialist company as complete sets. The components are packaged accordingly for each scope of delivery. The instructions for safely transporting the hardware are described below.

Observe the following basic instructions when transporting hardware:

▸ Transport larger scopes of delivery using appropriate transportation means (such as industrial trucks).
▸ Note the transport weight in order to select appropriate transportation means.
▸ Ensure that the transport process is careful and appropriate for the material and that components are protected against dirt during transport.
▸ Immediately check the delivery for completeness and transport damage on receipt.

> **i** **INFO**
> Submit a complaint about any defects as soon as they are identified. Claims for damages may only be made within the reclamation period.

Use the following transportation means for support when transporting, loading and unloading larger scopes of delivery:

- Industrial trucks, e.g. forklifts, telescopic handlers, pallet trucks
- Lifting equipment, e.g. transport nets, carry straps, round slings
- Protective devices, e.g. edge protection, spacer blocks

> **i** **INFO**
> Industrial trucks and lifting devices may only be operated by qualified persons.

> **i** **INFO**
> Lifting equipment and protective devices may only be used if they are in full working order.

15.2 Storing the hardware

Store all hardware components as follows until they are installed:

- Dry and protected
- On a level surface
- Protected against sunlight

16 Disposal

⚠	**ATTENTION**
	Incorrect disposal may pollute the environment.
	Pieces of hardware are raw materials.
	▸ Dispose of hardware for environmentally friendly material reutilisation as mixed scrap.

16.1 Disposing of packaging

The hardware is supplied as complete sets together with the packaging. Once unpacked, the installation company or builder is responsible for disposing of the packaging properly. The packaging materials are produced in accordance with current environmental protection standards. The materials can be recycled separately.

Follow the basic instructions below for the proper disposal of packaging:

▸ Do not dispose of packaging in household waste.
▸ Hand over packaging at local waste collection points or recycling centres.
▸ Observe the national regulations on the disposal of recyclable materials.
▸ Contact the local authorities if necessary.

16.2 Disposing of hardware

Once the hardware is finished with, the end user or builder is responsible for properly disposing of the windows, doors or balcony doors and the hardware, including any accessories. Hardware is produced in accordance with current environmental protection standards. The materials can be recycled separately.

Follow the basic instructions below for the proper disposal of hardware:

▸ Observe the information and specifications for disposal contained in the other applicable documents.
▸ Separate hardware components from windows, doors or balcony doors.
▸ Do not dispose of hardware in household waste.
▸ Hand over hardware at local waste collection points or recycling centres.
▸ Observe the national regulations on the disposal of recyclable materials.
▸ Contact the local authorities if necessary.

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